SERIES	DESCRIPTION	MODELS	STROKE LENGTHS	INITIAL FORCE (KG)	TOTAL LENGTH	BODY DIA.	MODEL PAGE
EJECTORS	Rod sealed, colour coded Nitro Spring Ejectors.	MNE16	10 - 125	5.7	45 + (2 X stroke)	12	21
		MNE24	10 - 125	23	45 + (2 X stroke)	20	22
MINI NITRO	Rod sealed, colour coded mini Nitro Springs.	MS12	7 - 125	13	42 + (2 X stroke)	12	23
		MS15	7 - 125	18	42 + (2 X stroke)	15	24
		NG0	7 - 125	30	42 + (2 X stroke)	19	25
		NG1	10 - 200	50	42 + (2 X stroke)	25	26
		NG2	10 - 125	50	50 + (2 X stroke)	32	28
EX RANGE	Rod sealed, high force, most compact gas spring available.	EX0170	7 - 125	170	30 + (2 X stroke)	19	27
		EX0320	7 - 125	320	30 + (2 X stroke)	25	31
		EX0360	10 - 125	360	30 + (2 X stroke)	32	32
		EX0500	10 - 125	470	30 + (2 X stroke)	38	36
		EX0750	10 - 125	740	32 + (2 X stroke)	45	41
		EX1000	13 - 125	920	38 + (2 X stroke)	50	45
		EX1500	13 - 125	1500	44 + (2 X stroke)	63	50
		EX2400	16 - 125	2400	45 + (2 X stroke)	75	56
		EX4200	16 - 125	4200	58 + (2 X stroke)	95	63
		EX6600	16 - 125	6630	68 + (2 X stroke)	120	70
		EX9500	19 - 125	9500	78 + (2 X stroke)	150	77
G-EX RANGE	Extended version of the EX, with a G1/8 port and deeper tapped holes in the base.	G-EX0360	10 - 125	360	40 + (2 X stroke)	32	33
		G-EX0500	10 - 125	470	40 + (2 X stroke)	38	37
		G-EX0750	10 - 125	740	47 + (2 X stroke)	45	42
		G-EX1000	13 - 125	920	52 + (2 X stroke)	50	46
		G-EX1500	13 - 125	1500	52 + (2 X stroke)	63	51
		G-EX2400	16 - 125	2400	59 + (2 X stroke)	75	57
		G-EX4200	16 - 125	4200	62 + (2 X stroke)	95	64
		G-EX6600	16 - 125	6630	72 + (2 X stroke)	120	71
ISNG RANGE	Optimum design for gas spring durability conforming to ISO 11901 standard.	ISNG0250	10 - 125	265	50 + (2 X stroke)	38	30
		ISNG0500	10 - 160	470	85 + (2 X stroke)	45	38
		ISNG0750	13 - 300	740	95 + (2 X stroke)	50	43
		ISNG1500	25 - 300	1500	110 + (2 X stroke)	75	52
		ISNG3000	25 - 300	3000	120 + (2 X stroke)	95	61
		ISNG5000	25 - 300	5000	140 + (2 X stroke)	120	68
		ISNG7500	25 - 300	7500	155 + (2 X stroke)	150	74
		ISNG10000	25 - 300	10600	160 + (2 X stroke)	195	79
MX RANGE	MX combines the power of the EX range with standard size of the ISNG range.	MX1000	13 - 300	920	95 + (2 X stroke)	50	47
		MX2400	25 - 300	2400	110 + (2 X stroke)	75	58
		MX4200	25 - 300	4200	120 + (2 X stroke)	95	65
		MX6600	25 - 300	6630	140 + (2 X stroke)	120	72
		MX9500	25 - 300	9500	155 + (2 X stroke)	150	78
RSNG REDUCED SHOCK RANGE	Reduced impact gas spring with damped return.	RSNG0750	25 - 300	740	95 + (2 X stroke)	50	44
		RSNG1500	25 - 300	1500	110 + (2 X stroke)	75	53
		RSNG3000	25 - 300	3000	120 + (2 X stroke)	95	62
		RSNG5000	25 - 300	5000	140 + (2 X stroke)	120	69
		RSNG7500	25 - 300	7500	155 + (2 X stroke)	150	75
		RSNG10000	25 - 300	10600	193 + (2 X stoke)	195	80
HDG RANGE	Ultra high force compact bore sealed gas spring.	HDG0042	6 - 50	425	56 - 195	25	34
		HDG007	6 - 50	740	63 - 195	32	39
		HDG010	6 - 50	1060	61 - 230	38	48
		HDG018	6 - 65	1800	66 - 271	50	54
		HDG029	10 - 65	2950	85 - 256	63	59
		HDG047	10 - 65	4700	80 - 273	75	66
		HDG075	10 - 65	7500	90 - 279	95	76
		HDG118	10 - 65	11800	100 - 320	120	81

Metrol Springs Ltd, established in 1984, design and manufacture nitrogen gas springs under the registered brand name "Nitro-Springs".

All Nitro-Springs are manufactured in the UK to the highest standards to meet the arduous demands of the metal stamping industry. Modern manufacturing facilities using the latest in production and design technology, ensure consistent, high quality, long life products that are competitively priced.

All our cylinders are designed and manufactured in accordance with our ISO9001:2015 quality system and conform to the rigorous standards of the European Pressure Equipment Directive (PED2014/68/EU).

Metrol Springs is a dynamic and progressive company, equipped to meet the needs of our customers. With a worldwide distribution network; spares, technical support and advice are never far away. We pride ourselves in a high level of service and support for our products wherever you are in the world.

In addition to our standard range of Nitro-Springs, we are able to design and manufacture non-standard sizes and bespoke products to meet the requirements for a wide range of applications in all types of industry. For information and assistance, please contact our technical department.

Nitro-Springs are covered by a comprehensive 2 year, 1,000,000 cycles guarantee.

nqa. ISO 9001 Registered

NITRO-SPRINGS
The engineers choice

METROL

PED 2014/68/EU

MANUFACTURERS OF NITRO-SPRINGS HEREBY

GUARANTEE FOR TWO YEARS OR 1,000,000 CYCLES

Metrol Springs Warrants its products to be free from manufacturing defects for a period of two years or working life of 1,000,000 cycles. The warranty is only valid if the product has been used within strict accordance with our user guidelines. The warranty shall not apply to any product that has been subjected to damage, alteration, abuse, misuse, misapplication or improper maintenance.

This warranty constitutes our entire and only warranty. There being no other warranties, expressed or implied in law or in fact including implied warranties of fitness and merchantability.

For more information on warranty issues, call the factory direct for all authorisations:
Metrol Springs Limited, 5 Clayfield Close, Moulton Park Industrial Estate, Northampton, NN3 6QF, UK
Tel: +44 (0) 1604 499332 Fax: +44 (0) 1604 493390 Email: sales@metrol.com

SAFETY FEATURES

If misused or damaged, gas springs can be a potential safety hazard. In order to minimise any hazard, Metrol gas springs have in-built active safety designs that safely degas the spring in case of overstroke or over-pressurisation.

DESIGN & MODELLING

Designs are evaluated using software modelling to determine safety factors and failure modes.

DYNAMIC TESTING

Metrol gas springs are tested to validate designs by;

- Fatigue testing over 2 million cycles at maximum pressure
- Burst test (over-pressurisation)
- Sealing components life tests
- Field trials

SAFETY & MAINTENANCE TRAINING

Metrol and authorised distributors offer essential safety training for the operation and maintenance of Metrol gas springs and gas spring systems.

CHARGING, OVERHAUL AND MAINTENANCE OF METROL GAS SPRINGS

Before attempting any work on a gas spring system the person must have attended and passed the Metrol training course. Upon completion of the course a certificate of competence is issued.

Attempting to perform work on a spring without completing the course may infringe safety and have a negative impact on the life of the product.

Overhaul and maintenance instructions are found in the manual. This manual is available to people who have completed the Metrol training course.

USE ONLY NITROGEN WHEN CHARGING - THE USE OF OXYGEN WILL CAUSE AN EXPLOSION.

TO DEGAS

Withdraw the port plug.

Discharge the gas spring with the vent key, pressing slightly on the valve. Always ensure gas springs are inverted when degassing.

Only certified trained personnel should perform work on gas springs.

Wear safety goggles.
Invert cylinder when degassing.

When charging, ensure piston rod is fully extended.

Maximum charge pressure must not be exceeded.

GAS SPRING IDENTIFICATION

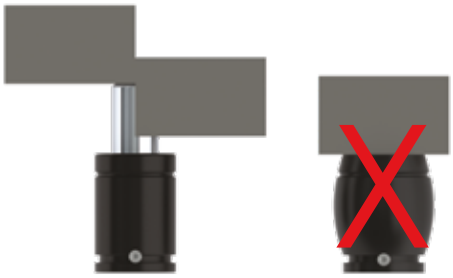
ALL METROL GAS SPRINGS are permanently marked on the cylinder.

- MODEL TYPE / STROKE (e.g. ISNG1500/050)
- MAX CHARGE PRESSURE
- WARNING - USE ONLY NITROGEN
- SERIAL NUMBER
- DATE OF MANUFACTURE
- CE / PED / 2014/68/EU (WHERE APPLICABLE ON CYLINDERS OVER 1L @150 BAR)
- QR CODE IDENTIFYING SPRING

TOOL SAFETY WARNING PLATES

MET: 8218 - MINI WARNING PLATE

MET: 8219 - LARGE WARNING PLATE



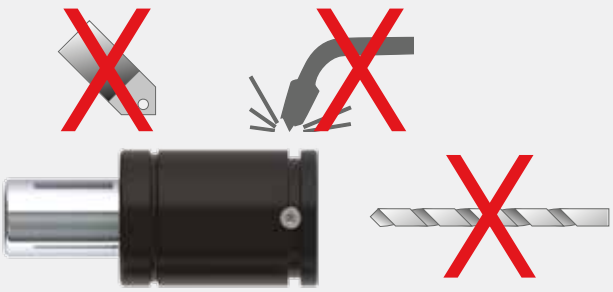
The nominal stroke listed in the catalogue may be utilised fully. However, it is strongly recommended that 5mm or 10% of the nominal stroke length is not used. This is to prevent 'overstroke' as a result of a change in the tool or a mishap.

USE ONLY NITROGEN

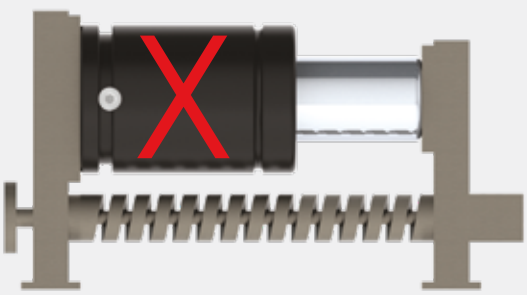
MAX WORKING TEMPERATURE

PROTECT FROM DAMAGE

Any damage to the Gas Spring could affect safety and life of the product. The spring should be degassed and disposed of.

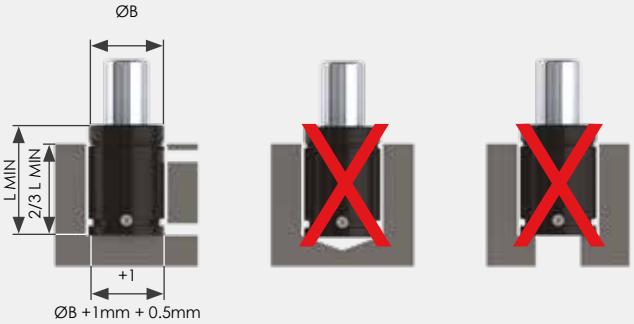


DO NOT MODIFY, MACHINE, DRILL OR WELD.



There is specific equipment to measure gas spring force. Please see page 120 for gas spring test stands.

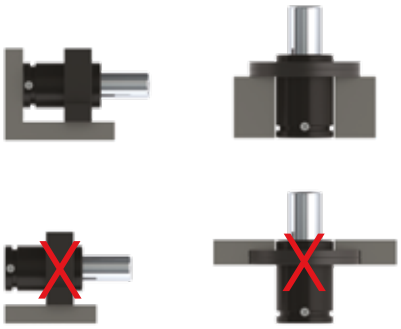
ASSEMBLY GUIDE



Ensure the gas spring sits on a flat surface. Uneven surfaces can cause side loading or structural damage.

Where possible, positively retain springs on a flat surface. Ensure bolts are tight and the spring cannot move.

Do not use the threaded hole in the piston, this is for maintenance only.



Always use a torque wrench to tighten.

Thread	Torque
M6	10Nm
M8	24Nm
M10	45Nm
M12	80Nm
M16	160-180Nm

Nitro-Springs have a range of fixing elements. Instructions must be adhered to. Incorrect fixing methods may reduce product life and can affect safety.

Gas springs should be protected from grinding dust during tool construction or maintenance.

Grinding dust can adhere to the piston surface and mix with oil to create a grinding paste which can damage the main seal.

If grinding has taken place near the springs, then the piston should be cleaned before operation.

Protect gas springs from liquid or solid contamination.

Pockets should be cleaned regularly and equipped with drainage.

Do not use gas springs in such a way that the piston rod is released freely from its compressed position. This could cause internal damage.

ROD GUIDANCE AND SIDE LOADING

Side loading gas springs is the most common cause for failure and should be avoided at all times. Metrol Gas Springs are robustly designed to minimise the impact of side loading with the following features.

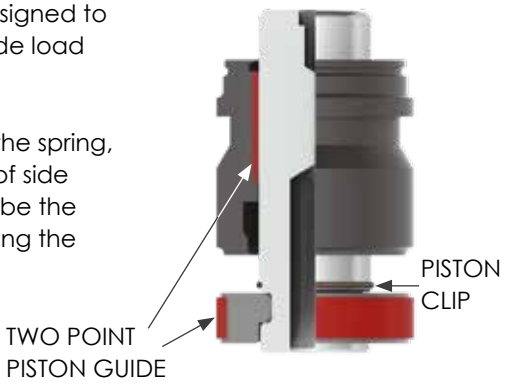
FLEXI GUIDE DESIGN

Specially designed piston guides allow the piston to flex under side loads to eliminate metal to metal contact, which can damage the piston rod surface(large side forces still result in heat build up which can damage the seals).

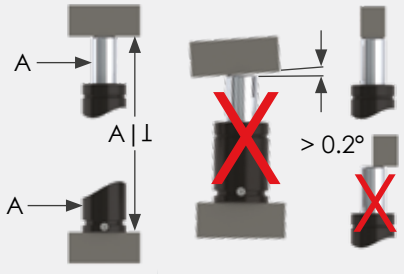
ROD AND STOP GUIDED SPRINGS

The rod and stop guided springs utilise a two guide system. The main guide in the seal unit is designed to offer maximum guidance reducing the side load impact on the main seal.

The stop is also guided through the bore of the spring, with two areas of guidance the effects of side loading is reduced. This is considered to be the optimum design for durability and reducing the impact of side loading.



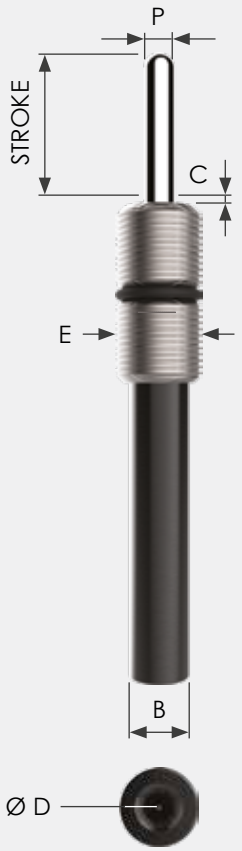
DESIGN GUIDE FOR REDUCING SIDE LOADING



Gas Springs must always work completely perpendicular to the contact surface. Side forces will dramatically reduce the life of the product.

Thrust plates protect against damage to the piston top and the tool contact area. Damage can introduce side loading, reducing the life of the gas spring. (Please see page 88)

CONTENTS



The MNE range of Ejector springs are designed to be mounted in a threaded pocket, (built into the application), enabling the part to be 'ejected' from the mould after the compression cycle is complete.

The MNE16 version is available with either a 1.5mm or 2mm pitch for compatibility. The MNE24 is available with just the 1.5mm pitch.

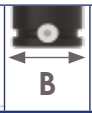
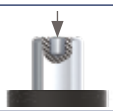
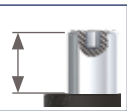
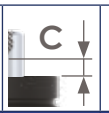
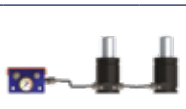
This range of Ejectors are available with either a 12mm or 20mm diameter body.

SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH	E
MNE16	-	M6 X 1	5mm	M16 X 1.5 / M16 X 2
MNE24	-	M6 X 1	5mm	M24 X 1.5

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 12 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

PED 2014/68/EU

								
MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
MNE16	6	12	5.7 - 42	10 - 125	1	TP	×	×	×	×
MNE24	12	20	23 - 170	10 - 125	1	TP	×	×	×	×

EJECTOR SPRING INSTALLATION TOOL

To install the MNE range of ejectors, please use the special Metrol installation tool.

Please specify MET 9006 when ordering.

The MS range of Mini Nitro-Springs are able to be mounted in drop-in pockets and with a front flange. Not only can they be used to 'eject' a part but also form part of the Mini Nitro springs range due to the extra mounting option and lack of external thread.

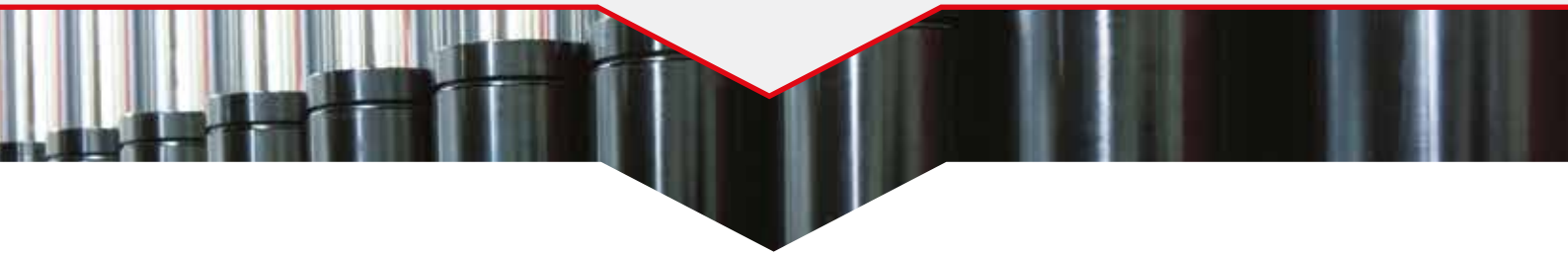
This range of Mini Nitro-Springs are available with either a 12mm or 15mm diameter body.

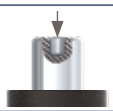
SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
MS12	-	M6 X 1	5mm
MS15	-	M6 X 1	5mm

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

PED 2014/68/EU

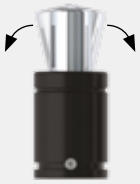


	P	B			C				
MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM		OVERHAUL
							S24	MICRO	CNOMO	
MS12	6	12	13 - 50	7 - 125	1	DP, TH, FF	×	×	×	×
MS15	7	15	18 - 70	7 - 125	1	DP, TH, FF	×	×	×	×

Originally designed to replace die springs, the Mini Nitro-Springs are a versatile range. These are available in 19, 25 and 32mm diameters. Mini Nitro-Springs can be pre-set to four different pressures, represented by the colours, green, blue, red and yellow.

An upper and lower C groove can be used for attachment with a front flange.

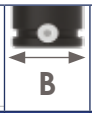
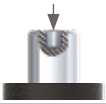
SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
NG0	-	M6 X 1	5mm
NG1	-	M6 X 1	5mm
NG2	-	M6 X 1	10mm



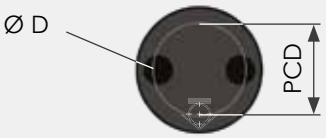
USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

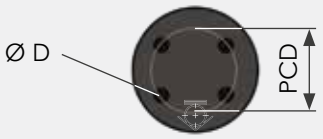
ISO PED 2014/68/EU

								
MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM	OVERHAUL
							S24 / MICRO / CNOMO	
NG0	8	19	30 - 90	7 - 125	1	DP, TH, FF	×	×
NG1	12	24.9	50 - 200	10 - 200	1	DP, TH, FF, ES	×	×
NG2	12	32	50 - 200	10 - 125	1	DP, TH, FF, SFF, SF	×	×

EX0360 - EX2400 M6 CHARGE PORT, EX4200 - EX9500 G 1/8 CHARGE PORT



EX0360 TO EX1000 STYLE CYLINDER



EX2400 TO EX9500 STYLE CYLINDER

FOR THE EX1500 BASE SEE PAGE 50

The EX range is our most powerful, compact rod sealed gas spring. Special rod guiding elements in the seal unit reduce side load impact to prevent rod and seal wear, increasing durability and seal life.

EX0170 and EX0320 have upper and lower C grooves for front flange mounting.

EX0360 > EX9500 the upper C groove and lower U groove allow numerous flange mounting options.

EX0360 > EX2400 there is an M6 side port for charging and also connecting in series using the Micro hose system or CNOMO hose system.

EX4200 > EX9500 there is a G1/8 side port for charging and connecting in series using the CNOMO, Micro and S24 hose systems.

SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
EX0170	-	M6 X 1	5mm
EX0320	-	M6 X 1	5mm
EX0360	20	M6 X 2	9mm
EX0500	20/25	M6 X 2	9mm
EX0750	20	M8 X 2	9mm
EX1000	20	M8 X 2	9mm
EX1500	20/40	M8 X 6	9mm
EX2400	40	M8 X 4	6mm
EX4200	60	M8 X 4	12mm
EX6600	80	M10 X 4	15mm
EX9500	100	M10 X 4	15mm

USE ONLY NITROGEN

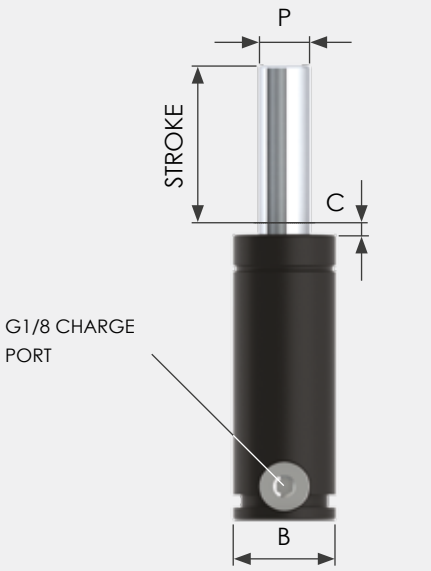
MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

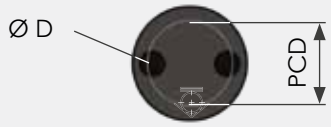
SERVICE KIT AVAILABLE

ISO

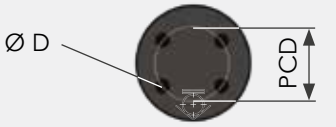
PED 2014/68/EU

MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
EX0170	11	19	170	7 - 125	1	DP, TH, FF	×	×	×	×
EX0320	15	24.9	320	7 - 125	1	DP, TH, FF, ES	×	×	×	×
EX0360	16	32	360	10 - 125	2	TH, FF, SF	×	✓	✓	✓
EX0500	20	38	470	10 - 125	2	TH, FF, SF, SFF, ES	×	✓	✓	✓
EX0750	25	45	740	10 - 125	2	TH, FF, SF, SFF, ES, BP	×	✓	✓	✓
EX1000	28	50	920	13 - 125	3	TH, FF, SF, SFF, ES, BP	×	✓	✓	✓
EX1500	36	63	1500	13 - 125	3	TH, FF, SF, SFF, BP	×	✓	✓	✓
EX2400	45	75	2400	16 - 125	3	TH, FF, SF, SFF, ES, BP	×	✓	✓	✓
EX4200	60	95	4200	16 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
EX6600	75	120	6630	16 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
EX9500	90	150	9500	19 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓





G-EX0360 TO G-EX1500 STYLE CYLINDER



G-EX2400 TO G-EX6600 STYLE CYLINDER

The G-EX range is based upon the high tonnage compact EX range, but with a longer body incorporating deeper tapped holes in the base for fixing.

G-EX0360 > G-EX6600 the upper C groove and lower U groove allow numerous flange mounting options.

The full range of G-EX springs have G1/8 ports for direct connection to the CNOMO, Micro and S24 Hose systems.

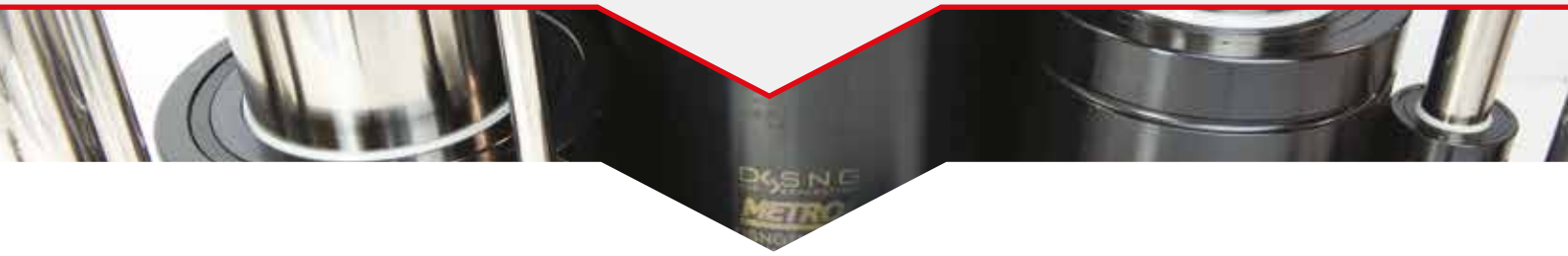
SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
G-EX0360	20	M6 X 2	16mm
G-EX0500	25	M6 X 2	15mm
G-EX0750	20	M8 X 2	16mm
G-EX1000	20	M8 X 2	16mm
G-EX1500	20	M8 X 2	16mm
G-EX2400	40	M8 X 4	16mm
G-EX4200	60	M8 X 4	16mm
G-EX6600	80	M10 X 4	16mm

USE ONLY NITROGEN

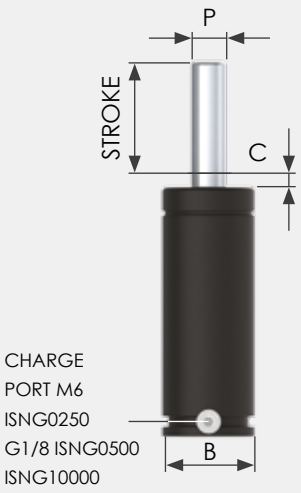
MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

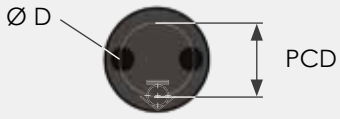
SERVICE KIT AVAILABLE

PED 2014/68/EU

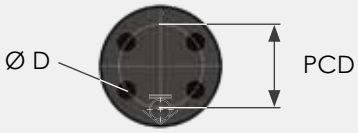


MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
G-EX0360	16	32	360	10 - 125	2	TH, FF, SF	✓	✓	✓	✓
G-EX0500	20	38	470	10 - 125	2	TH, FF, SF, SFF, ES	✓	✓	✓	✓
G-EX0750	25	45	740	10 - 125	2	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
G-EX1000	28	50	920	13 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
G-EX1500	36	63	1500	13 - 125	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓
G-EX2400	45	75	2400	16 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
G-EX4200	60	95	4200	16 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
G-EX6600	75	120	6630	16 - 125	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓





ISNG0250 TO ISNG0750 CYLINDER



ISNG1500 TO ISNG10000 CYLINDER

The ISNG range is the optimum design for gas spring durability and conforms to the ISO11901 gas spring standard. ISNG range includes strokes up to 300mm and incorporates longer seal unit guides and bore guided piston stops for maximum durability.

Upper C-Groove and Lower U-Groove give numerous flange mounting options.

The ISNG0250 springs have M6 charge ports for direct connection to CNOMO and Micro hose systems only.

Every other spring in this range supports direct connection to all three hose systems; CNOMO, Micro and S24.

SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
ISNG0250	18/25	M6 X 2	12mm
ISNG0500	20	M8 X 2	17mm
ISNG0750	20	M8 X 2	17mm
ISNG1500	40	M8 X 4	12mm
ISNG3000	60	M8 X 4	13mm
ISNG5000	80	M10 X 4	10mm
ISNG7500	100	M10 X 4	10mm
ISNG10000	120	M12 X 4	16mm

USE ONLY NITROGEN

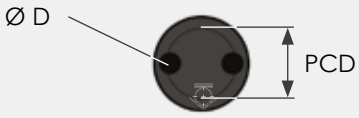
MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT AVAILABLE

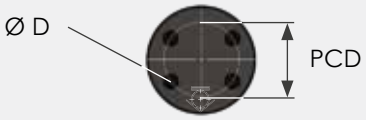
ISO

PED 2014/68/EU

MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
ISNG0250	14	38	265	10 - 125	2	TH, FF, SF, SFF, ES	×	✓	✓	✓
ISNG0500	20	45	470	10 - 160	2	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
ISNG0750	25	50	740	12.7 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
ISNG1500	36	75	1500	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
ISNG3000	50	95	3000	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
ISNG5000	65	120	5000	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
ISNG7500	80	150	7500	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
ISNG10000	95	195	10600	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓



MX1000 STYLE CYLINDER



MX2400 TO MX9500 STYLE CYLINDER

The MX range combines the force of the EX range in the envelope sizes of the full height ISNG range, providing a high force durable gas spring.

MX range includes strokes up to 300mm and incorporates longer seal unit guides and bore guided piston stops for maximum durability.

The MX range can be connected in series using the CNOMO, Micro and S24 hose systems.

Upper C-Groove and Lower U-Groove give numerous flange mounting options.

SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
MX1000	20	M8 X 2	15mm
MX2400	40	M8 X 4	16mm
MX4200	60	M8 X 4	15mm
MX6600	80	M10 X 4	15mm
MX9500	100	M10 X 4	15mm

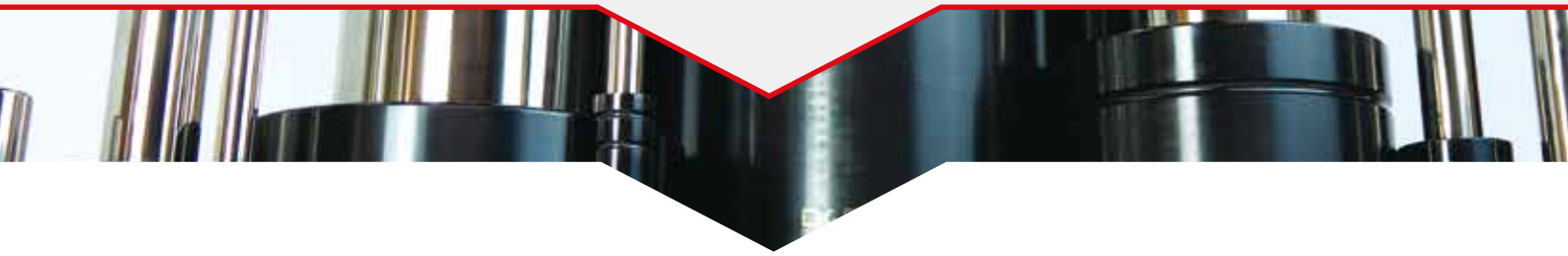
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT AVAILABLE

ISO

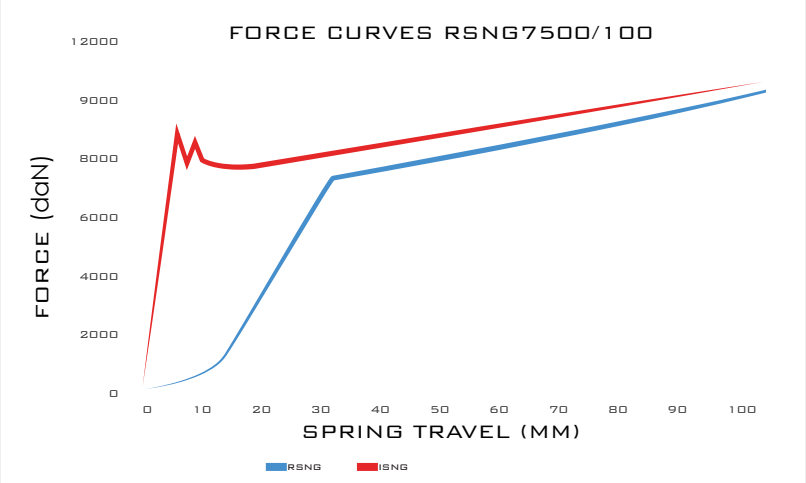
PED 2014/68/EU

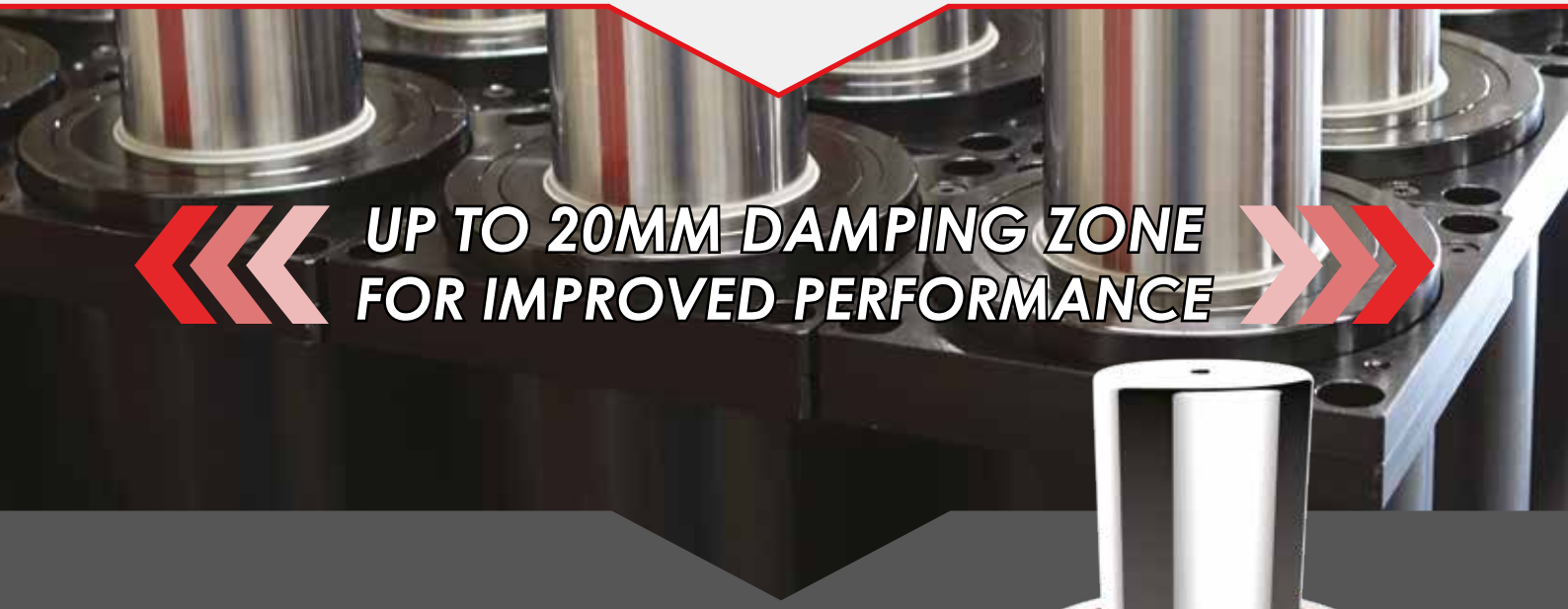


MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
MX1000	28	50	920	13 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
MX2400	45	75	2400	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
MX4200	60	95	4200	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
MX6600	75	120	6630	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓
MX9500	90	150	9500	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓	✓

Reduced force on contact and damped return stroke.

- Reduced pad bounce and improves part transfer efficiency
- Increased production rates through higher SPM
- Reduction in noise with quieter working environment
- Reduced force going through the press ram at initial contact
- Reduced wear and maintenance on the press





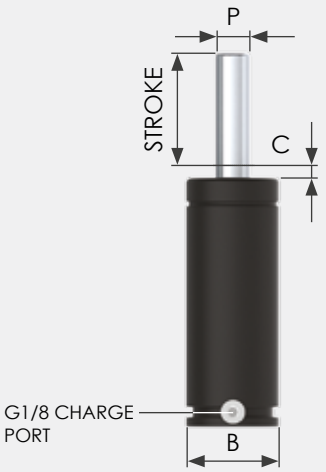
UP TO 20MM DAMPING ZONE FOR IMPROVED PERFORMANCE

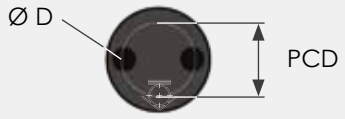
Available in standard ISO sizes for **750, 1500, 3000**, **5000**, **7500** and **10000kg** gas springs.

- Standard ISO fixing flanges
- Low contact force / damped return stroke from 10mm to 20mm
- Full range of stroke sizes available from 25mm to 300mm
- Can be retro-fitted in place of standard ISO springs
- Flexible working pressure range, between 50 to 150 bar
- Can be used on pipe systems

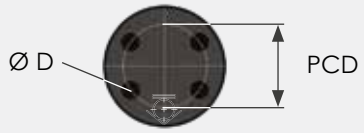
Standard 2 year 1,000,000 cycles *guarantee*!

PATENTED DESIGN





RSNG0750 STYLE CYLINDER



RSNG1500 TO RSNG7500 STYLE CYLINDER

The RSNG gas spring reduces shock loading on the initial contact and provides damping on the return stroke.

The RSNG dimensions are based on the ISNG (ISO) dimensions and are interchangeable. RSNG range includes strokes up to 300mm.

The RSNG range can be connected in series using the CNOMO, Micro and S24 hose systems.

Upper C-Groove and Lower U-Groove give numerous flange mounting options.

SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
RSNG0750	20	M8 X 2	17
RSNG1500	40	M8 X 4	12
RSNG3000	60	M8 X 4	13
RSNG5000	80	M10 X 4	10
RSNG7500	100	M10 X 4	10
RSNG10000	120	M12 X 4	16

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 50 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

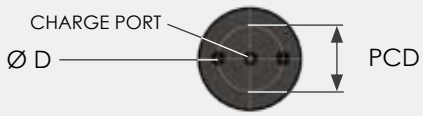
SERVICE KIT AVAILABLE

MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
RSNG0750	25	50	740	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓
RSNG1500	36	75	1500	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓
RSNG3000	50	95	3000	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓
RSNG5000	65	120	5000	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓
RSNG7500	80	150	7500	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓
RSNG10000	95	195	10600	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓	✓

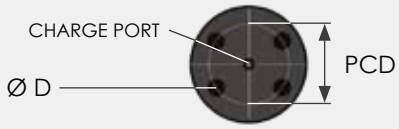
MOUNTING ORIENTATION

The RSNG must be mounted piston side up.

HDG RANGE OVERVIEW



HDG007 TO HDG-029 STYLE CYLINDER



HDG047 TO HDG118 STYLE CYLINDER

The HDG range is a compact bore sealed gas spring, giving maximum force for the cylinder diameter.

Stroke lengths up to 65mm are available.

Upper and lower C-Grooves allow the springs to be clamped using flanges, in addition to the tapped holes in the base.

HDG010 > HDG118 there is a Side Port Base Plate attachement available with a G1/8 side port for charging and connecting in series using the CNOMO, Micro and S24 hose systems.

It is always recommended that the springs be positively retained.

SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH	SIDE PORT BASES
HDG0042	-	M6 X 1	16mm	-
HDG007	15	M6 X 2	9mm	-
HDG010	17	M6 X 2	6mm	HDG-010-SP
HDG018	26	M6 X 2	9mm	HDG-018-SP
HDG029	34	M8 X 2	10mm	HDG-029-SP
HDG047	40	M8 X 4	8mm	HDG-047-SP
HDG075	52	M8 X 4	13.5mm	HDG-075-SP
HDG118	68	M8 X 4	11mm	HDG-118-SP

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

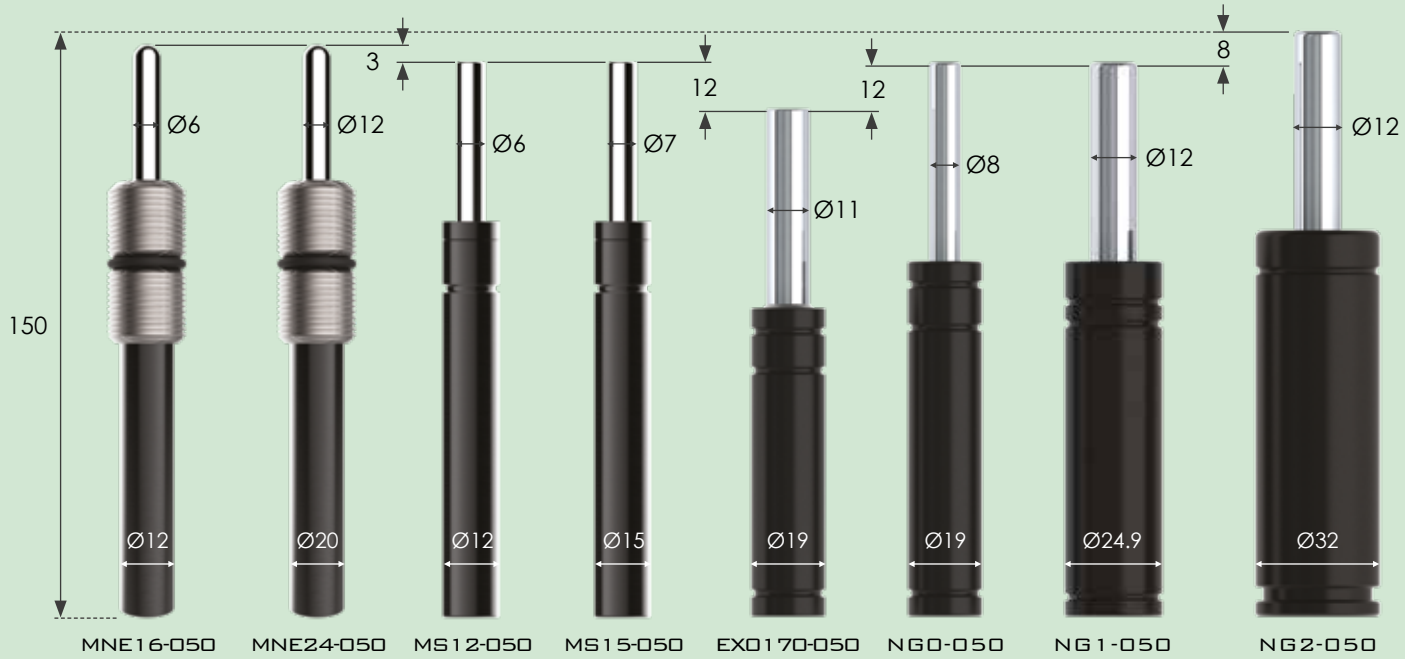
SERVICE KIT AVAILABLE

PED 2014/68/EU

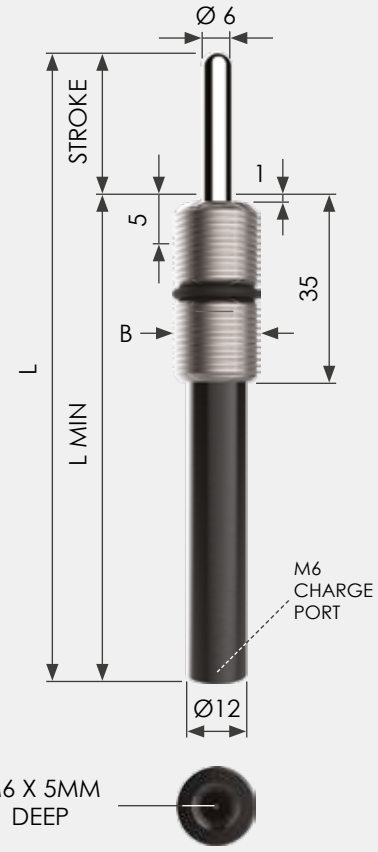
MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM			OVERHAUL
							S24	MICRO	CNOMO	
HDG0042	12	24.9	425	6 - 50	1	DP, TH, FF	×	×	×	✓
HDG007	20	32	740	6 - 50	3	TH, FF, SFF	×	×	×	✓
HDG010	20	38	1060	6 - 50	3	TH, FF, SFF, SF	✓	✓	✓	✓
HDG018	30	50	1800	6 - 65	3	TH, FF, SFF, SF	✓	✓	✓	✓
HDG029	45	63.2	2950	6 - 65	3	TH, FF, SFF, SF	✓	✓	✓	✓
HDG047	50	75	4700	10 - 65	3	TH, FF, SFF, SF	✓	✓	✓	✓
HDG075	65	95	7500	10 - 65	3	TH, FF, SFF, SF	✓	✓	✓	✓
HDG118	80	120	11800	10 - 65	3	TH, FF, SFF, SF	✓	✓	✓	✓

WITH SIDE PORT BASE PLATE ONLY
SEE INDIVIDUAL SPRING PAGES FOR DETAILS

30 - 200KG



MNE16 EJECTORS
WITH THREAD LOCKING



MODEL	B	CHARGING PRESSURE (BAR)	FORCE (daN) @20˚ C		COLOUR
			INITIAL	END	
MNE16-(B)-020-XXX	M16 X 1.5 / M16 X 2	20	5.7	9.5	Green
MNE16-(B)-040-XXX		40	11	19	Blue
MNE16-(B)-075-XXX		75	21	36	Red
MNE16-(B)-150-XXX		150	42	71.5	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

TYPE	STROKE	L MIN	L
MNE16	10	55	65
	20	65	85
	30	75	105
	40	85	125
	50	95	145
	60	105	165
	70	115	185
	80	125	205
	100	145	245
	125	170	295

ORDERING EXAMPLE: **MNE16-1.5-020-010**

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 12 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

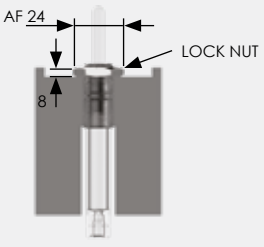
ISO

PED 2014/68/EU

MET 9006
EJECTOR SPRING INSTALLATION TOOL

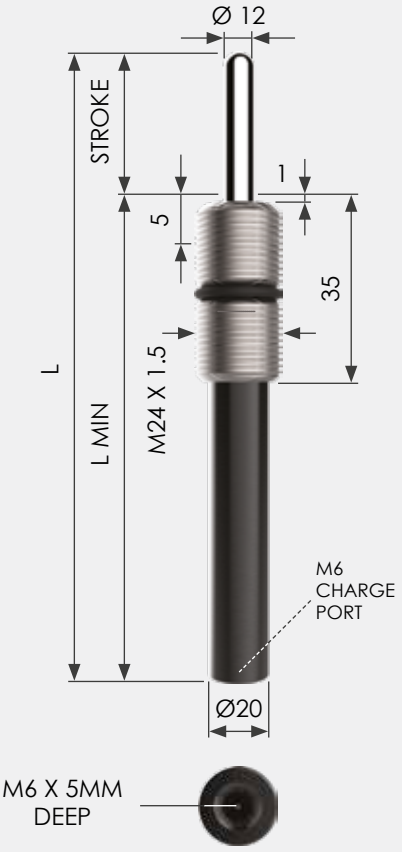
GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES
(all dimensions are mm, unless otherwise stated)



Threaded Pocket

Please note: gas springs should always be positively retained where possible.



MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20˚ C		COLOUR
		INITIAL	END	
MNE24-020-XXX	20	23	39	Green
MNE24-040-XXX	40	45	80	Blue
MNE24-075-XXX	75	85	150	Red
MNE24-150-XXX	150	170	290	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

TYPE	STROKE	L MIN	L
MNE24	10	55	65
	20	65	85
	30	75	105
	40	85	125
	50	95	145
	60	105	165
	70	115	185
	80	125	205
	100	145	245
	125	170	295

ORDERING EXAMPLE: **MNE24-1.5-020-010**

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 6 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

ISO

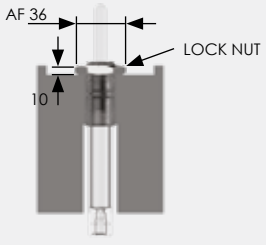
PED 2014/68/EU

MET 9006

EJECTOR SPRING INSTALLATION TOOL

MOUNTING EXAMPLES

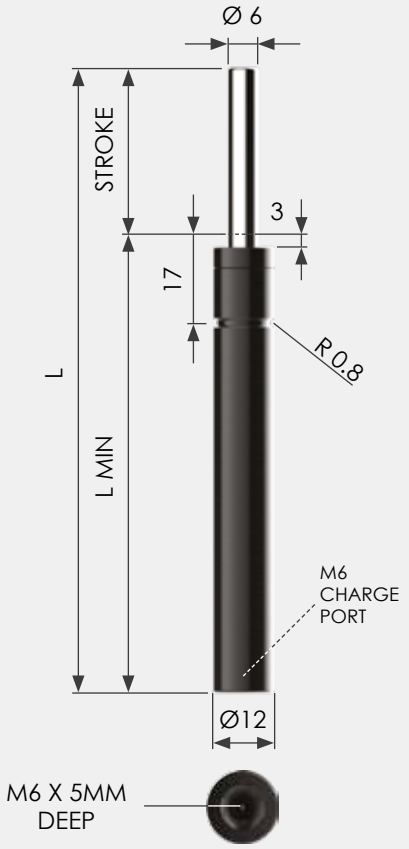
(all dimensions are mm, unless otherwise stated)



Threaded Pocket

Please note: gas springs should always be positively retained where possible.

MS12 MICRO GAS SPRINGS



MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20˚ C		COLOUR
		INITIAL	END	
MS12-045-XXX	45	13	18.2	Green
MS12-090-XXX	90	25	36.4	Blue
MS12-135-XXX	135	38	54.6	Red
MS12-180-XXX	180	50	72.7	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

TYPE	STROKE	L MIN	L
MS12	7	49	56
	10	52	62
	12	54.7	67.4
	15	57	72
	19	61	80
	25	67	92
	38	80	118
	50	92	142
	63	108.5	172
	75	120	195
	80	125	205
	100	145	245
	125	170	295

ORDERING EXAMPLE: **MS12-045-007**

USE ONLY NITROGEN

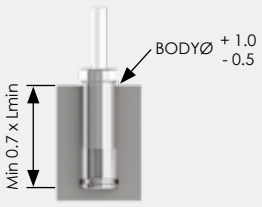
MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

ISO

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

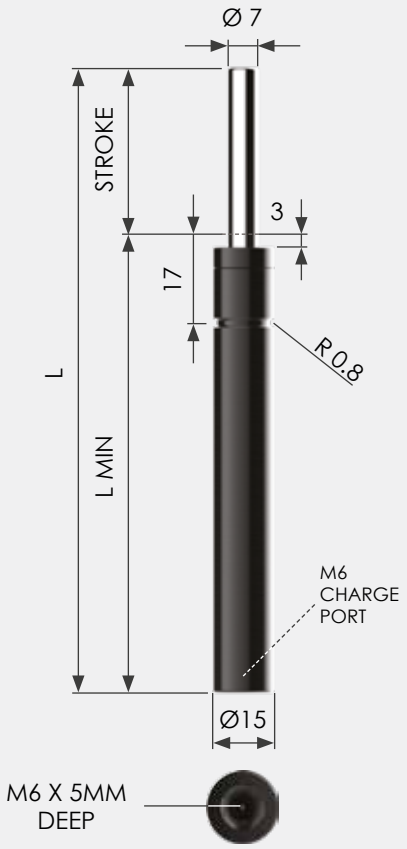


Drop-in Pocket

Front Flange
012 FF

M6 Tapped Hole
Only for strokes up to 25mm

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MS12 x 7 + FF



MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20˚ C		COLOUR
		INITIAL	END	
MS15-045-XXX	45	18	24.9	Green
MS15-090-XXX	90	35	49.8	Blue
MS15-135-XXX	135	50	74.7	Red
MS15-180-XXX	180	70	99.6	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

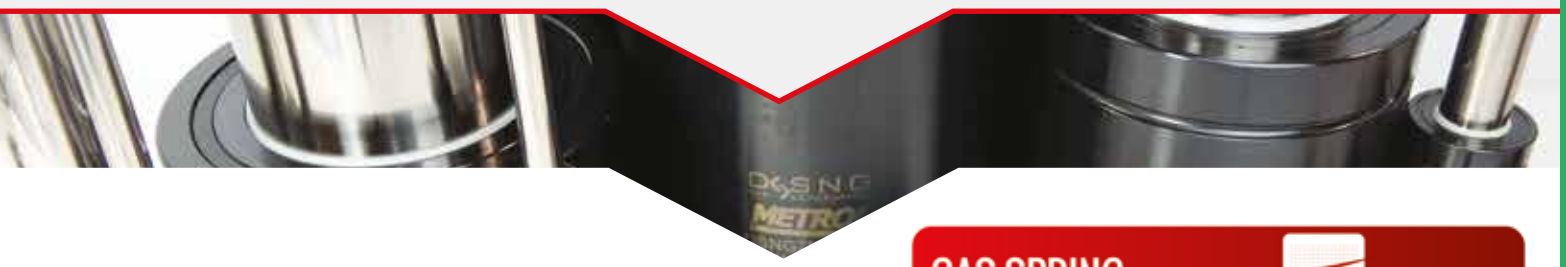
TYPE	STROKE	L MIN	L
MS15	7	49	56
	10	52	62
	12	55	68
	15	57	72
	19	61	80
	25	67	92
	38	80.1	118.2
	50	92	142
	63	108.5	172
	75	120	195
	80	125	205
	100	145	245
	125	170	295

ORDERING EXAMPLE: **MS15-045-007**

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

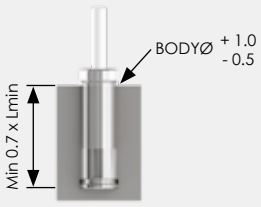
ISO



GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

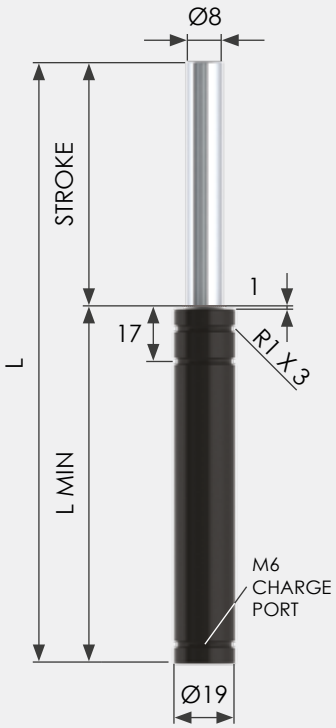


Drop-in Pocket

Front Flange
015 FF

M6 Tapped Hole
Only for strokes up to 25mm

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MS15 x 7 + FF



M6 X 5MM DEEP

MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20° C		COLOUR
		INITIAL	END	
NG0-060-XXX	60	30	43.3	Green
NG0-100-XXX	100	50	71.8	Blue
NG0-140-XXX	140	70	100.3	Red
NG0-180-XXX	180	90	128.5	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

TYPE	STROKE	L MIN	L
NG0	7	49	56
	10	52	62
	15	57	72
	25	67	92
	38	80.1	118.2
	50	92	142
	63	108.5	172
	80	125	205
	100	145	245
	125	170	295

ORDERING EXAMPLE: **NG0-060-007**

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

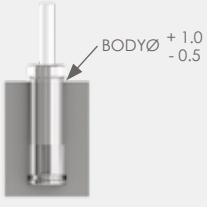
PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-8

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

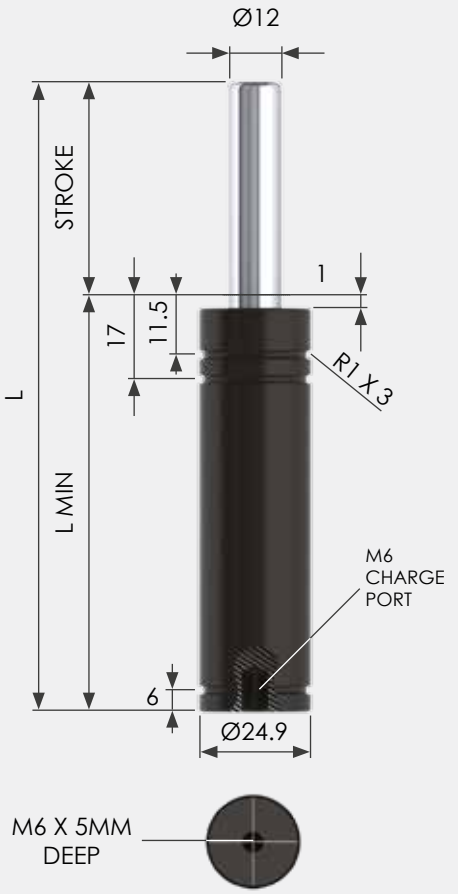


Drop-in Pocket

M6 Tapped Hole
Only for strokes up to 25mm

Front Flange
19 FF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: NG0 x 19 + FF



MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20° C		COLOUR
		INITIAL	END	
NG1-050-XXX	45	50	76.6	Green
NG1-100-XXX	90	100	153.2	Blue
NG1-150-XXX	135	150	230	Red
NG1-200-XXX	180	200	306.4	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

TYPE	STROKE	L MIN	L
NG1	10	52	62
	13	54.7	67.4
	15	57	72
	16	58	74
	25	67	92
	38	80.1	118.2
	50	92	142
	63	108.5	172
	80	125	205
	100	145	245
	125	170	295
	150	203	353
	160	213	373
	175	228	403
	200	253	453

ORDERING EXAMPLE: **NG1-050-010**

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

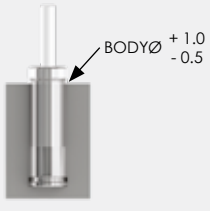
PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-12

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

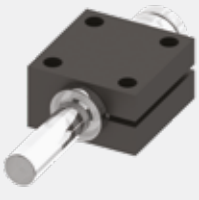
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88



Drop-in Pocket

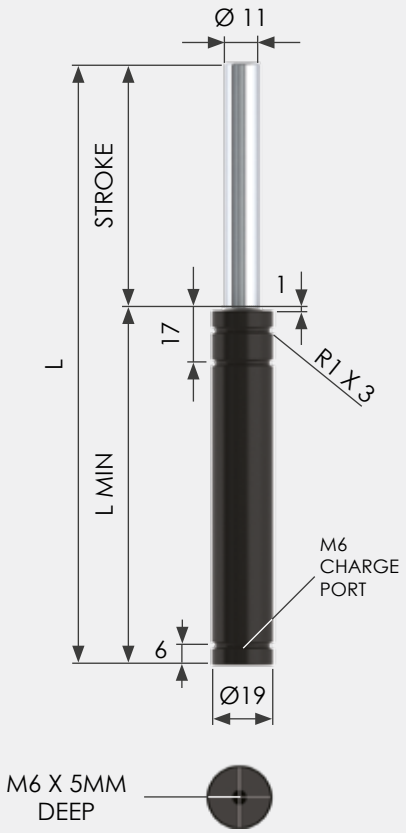
Front Flange
25 FF

M6 Tapped Hole
Only for strokes up to 25mm



End Support
25 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: NG1 x 25 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX0170-007	170	280	37	44	0.002	0.06
EX0170-010		280	40	50	0.002	0.06
EX0170-013		280	43	56	0.003	0.07
EX0170-015		280	45	60	0.004	0.07
EX0170-019		280	49	68	0.005	0.07
EX0170-025		280	55	80	0.006	0.08
EX0170-032		280	62	94	0.008	0.09
EX0170-038		280	68	106	0.009	0.09
EX0170-050		280	80	130	0.012	0.10
EX0170-063		280	93	156	0.015	0.12
EX0170-075		280	110	185	0.018	0.13
EX0170-080		280	115	195	0.019	0.14
EX0170-100		280	135	235	0.024	0.16
EX0170-125		280	160	285	0.030	0.19

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

ORDERING EXAMPLE: **EX0170-007**

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

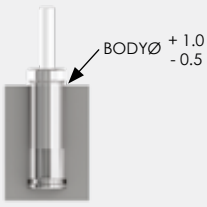
PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-11

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

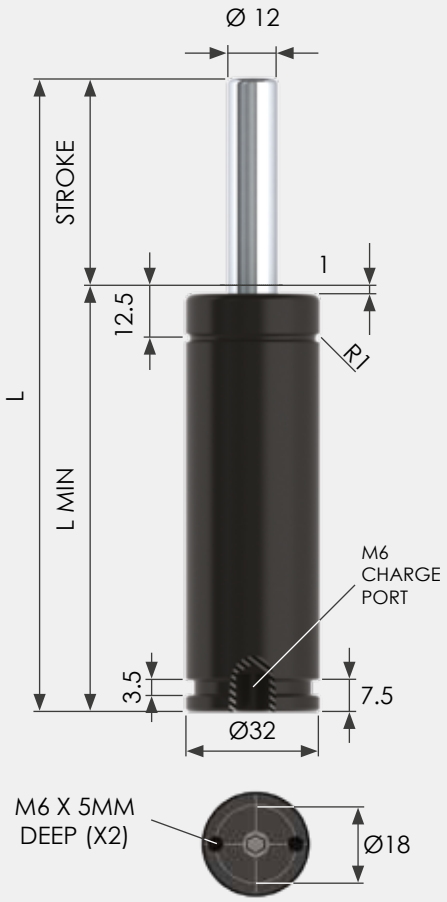


Drop-in Pocket

Front Flange
019 FF

M6 Tapped Hole
Only for strokes up to 25mm

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX0170 X 007 + FF



MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20˚ C		COLOUR
		INITIAL	END	
NG2-050-XXX	45	50	76.6	Green
NG2-100-XXX	90	100	153.1	Blue
NG2-150-XXX	135	150	229.9	Red
NG2-200-XXX	180	200	306.3	Yellow

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

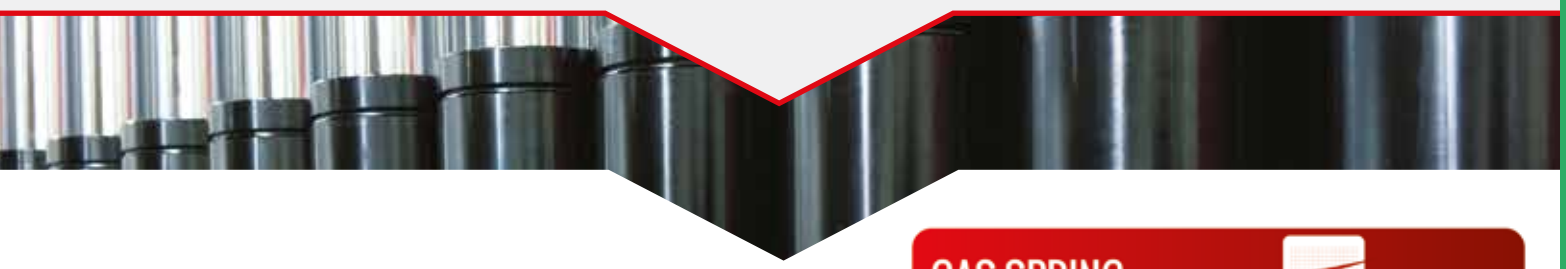
TYPE	STROKE	L MIN	L
NG2	10	60	70
	12	62.7	75.4
	16	66	82
	25	75	100
	38	88.1	126.2
	50	100	150
	63	113.5	177
	80	130	210
	100	150	250
	125	175	300

ORDERING EXAMPLE: **NG2-050-010**

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

ISO PED 2014/68/EU



GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

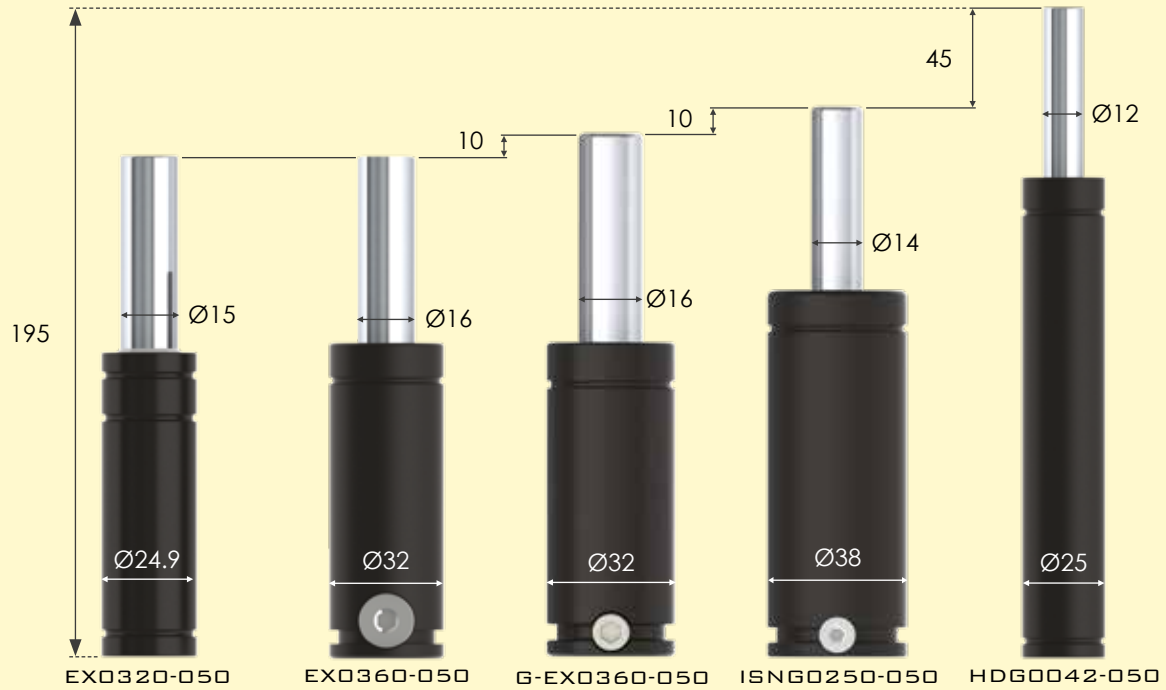
MOUNTING EXAMPLES

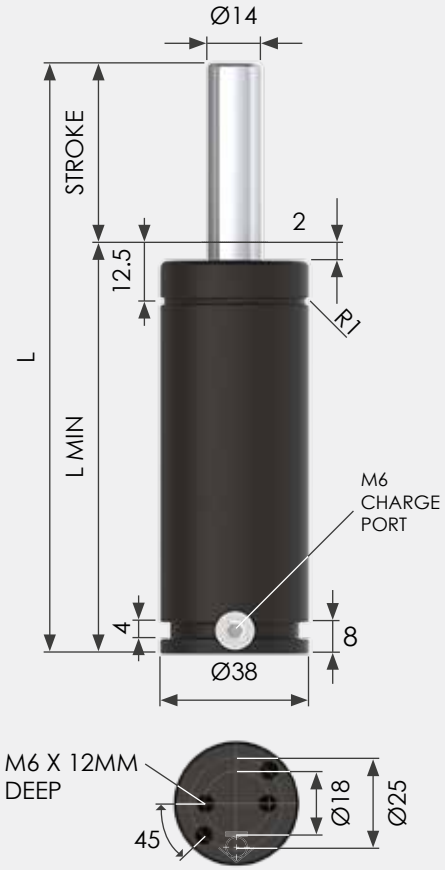
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

M6 Tapped Hole | Square Front Flange 32 SFF | Front Flange 32 FF | Square Flange 32 SF | Drop-in Pocket

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: NG2 x 10 + FF

250 - 420KG





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG0250-010	265	350	60	70	0.011	0.40
ISNG0250-013		350	62.7	75.4	0.013	0.42
ISNG0250-016		350	66	82	0.016	0.45
ISNG0250-025		350	75	100	0.023	0.48
ISNG0250-038		350	88.1	126.2	0.032	0.55
ISNG0250-050		350	100	150	0.041	0.61
ISNG0250-063		350	113.5	177	0.051	0.67
ISNG0250-080		350	130	210	0.062	0.74
ISNG0250-100		350	150	250	0.077	0.87
ISNG0250-125		350	175	300	0.096	0.97

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG0250

ISO

PED 2014/68/EU

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

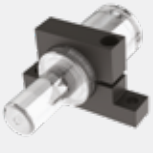
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88


2 X M6 Tapped Holes

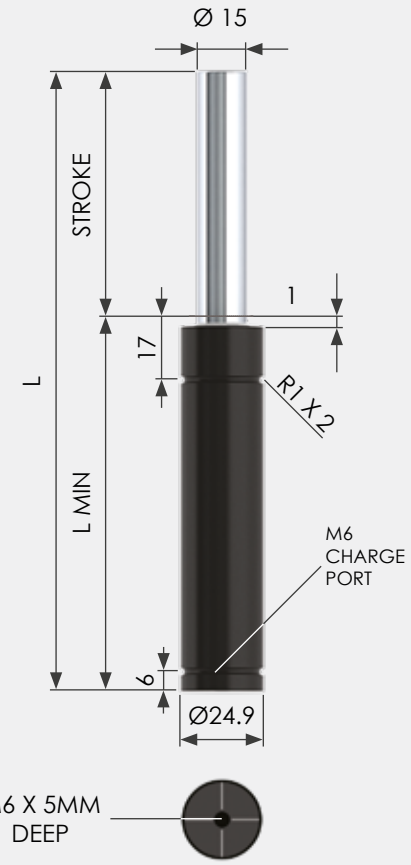

Square Front Flange
38 SFF


Front Flange
38 FF


Square Flange
38 SF


End Support
38 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG0250 x 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX0320-007	320	480	37	44	0.004	0.09
EX0320-010		490	40	50	0.005	0.10
EX0320-013		500	43	56	0.006	0.10
EX0320-015		510	45	60	0.007	0.10
EX0320-019		510	49	68	0.009	0.11
EX0320-025		520	55	80	0.011	0.12
EX0320-032		530	62	94	0.014	0.13
EX0320-038		530	68	106	0.017	0.14
EX0320-050		530	80	130	0.022	0.17
EX0320-063		530	93	156	0.028	0.19
EX0320-075		530	110	185	0.034	0.21
EX0320-080		530	115	195	0.036	0.23
EX0320-100		530	135	235	0.044	0.25
EX0320-125		530	160	285	0.055	0.30

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

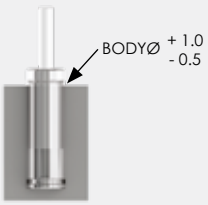
PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-15

GAS SPRING
FORCE CALCULATOR
www.metrol.com/
gas-spring-force-calculator

MOUNTING EXAMPLES

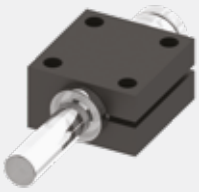
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88



Drop-in Pocket

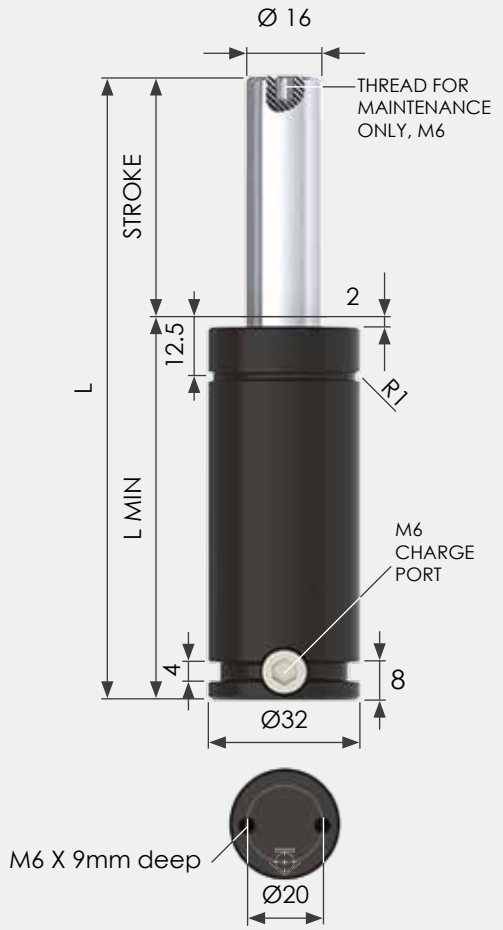
Front Flange
25 FF

M6 Tapped Hole
Only for strokes up to 25mm



End Support
25 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX0320 x 007 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX0360-010	360	590	40	50	0.01	0.18
EX0360-013		520	43	56	0.01	0.18
EX0360-016		530	46	62	0.01	0.19
EX0360-019		560	49	68	0.01	0.20
EX0360-025		550	55	80	0.02	0.23
EX0360-032		550	62	94	0.02	0.25
EX0360-038		550	68	106	0.03	0.27
EX0360-050		560	80	130	0.03	0.31
EX0360-063		550	93	156	0.04	0.36
EX0360-075		550	105	180	0.05	0.40
EX0360-080		550	110	190	0.05	0.42
EX0360-100		550	130	230	0.06	0.49
EX0360-125		550	155	280	0.08	0.59

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX0360

ISO PED 2014/68/EU

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-16

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

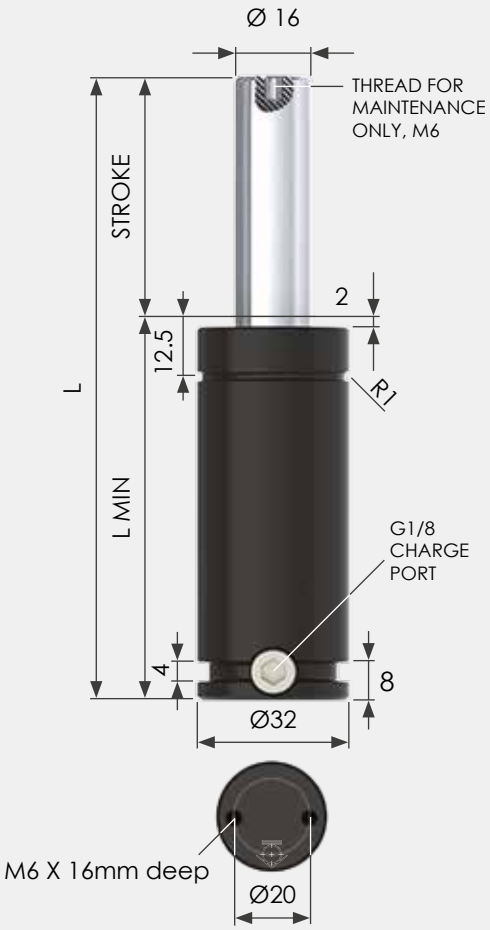
2 X M6 Tapped Holes

Square Front Flange 32 SFF

Front Flange 32 FF

Square Flange 32 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX0360 x 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX0360-010	360	590	50	60	0.01	0.17
G-EX0360-013		520	53	66	0.01	0.18
G-EX0360-016		530	56	72	0.01	0.19
G-EX0360-019		560	59	78	0.01	0.20
G-EX0360-025		550	65	90	0.02	0.22
G-EX0360-032		550	72	104	0.02	0.26
G-EX0360-038		550	78	116	0.03	0.30
G-EX0360-050		560	90	140	0.03	0.35
G-EX0360-063		550	103	166	0.04	0.38
G-EX0360-075		550	115	190	0.05	0.40
G-EX0360-080		550	120	200	0.05	0.42
G-EX0360-100		550	140	240	0.06	0.45
G-EX0360-125		550	165	290	0.08	0.52

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX0360

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-16

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

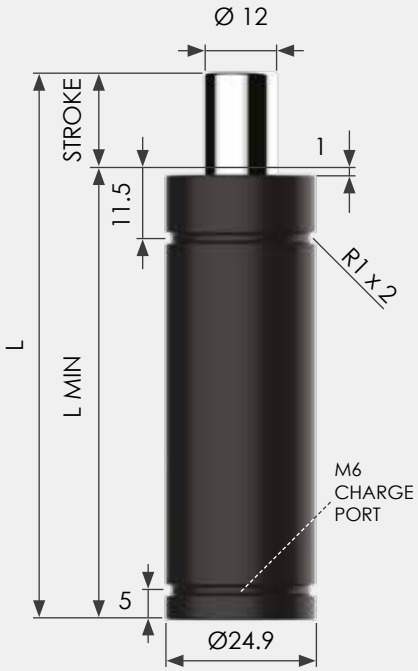
2 X M6 Tapped Holes

Square Front Flange 32 SFF

Front Flange 32 FF

Square Flange 32 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX0360 x 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG0042-06	425	730	50	56	0.003	0.14
HDG0042-10		730	60	70	0.005	0.17
HDG0042-16		730	75	91	0.008	0.20
HDG0042-25		740	95	120	0.011	0.22
HDG0042-32		790	108	140	0.021	0.24
HDG0042-40		800	125	165	0.026	0.27
HDG0042-50		800	145	195	0.032	0.31

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

PED 2014/68/EU

USE ONLY NITROGEN

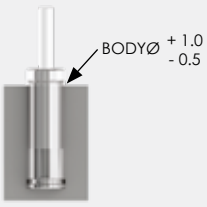
MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

SERVICE KIT HDG0042

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88



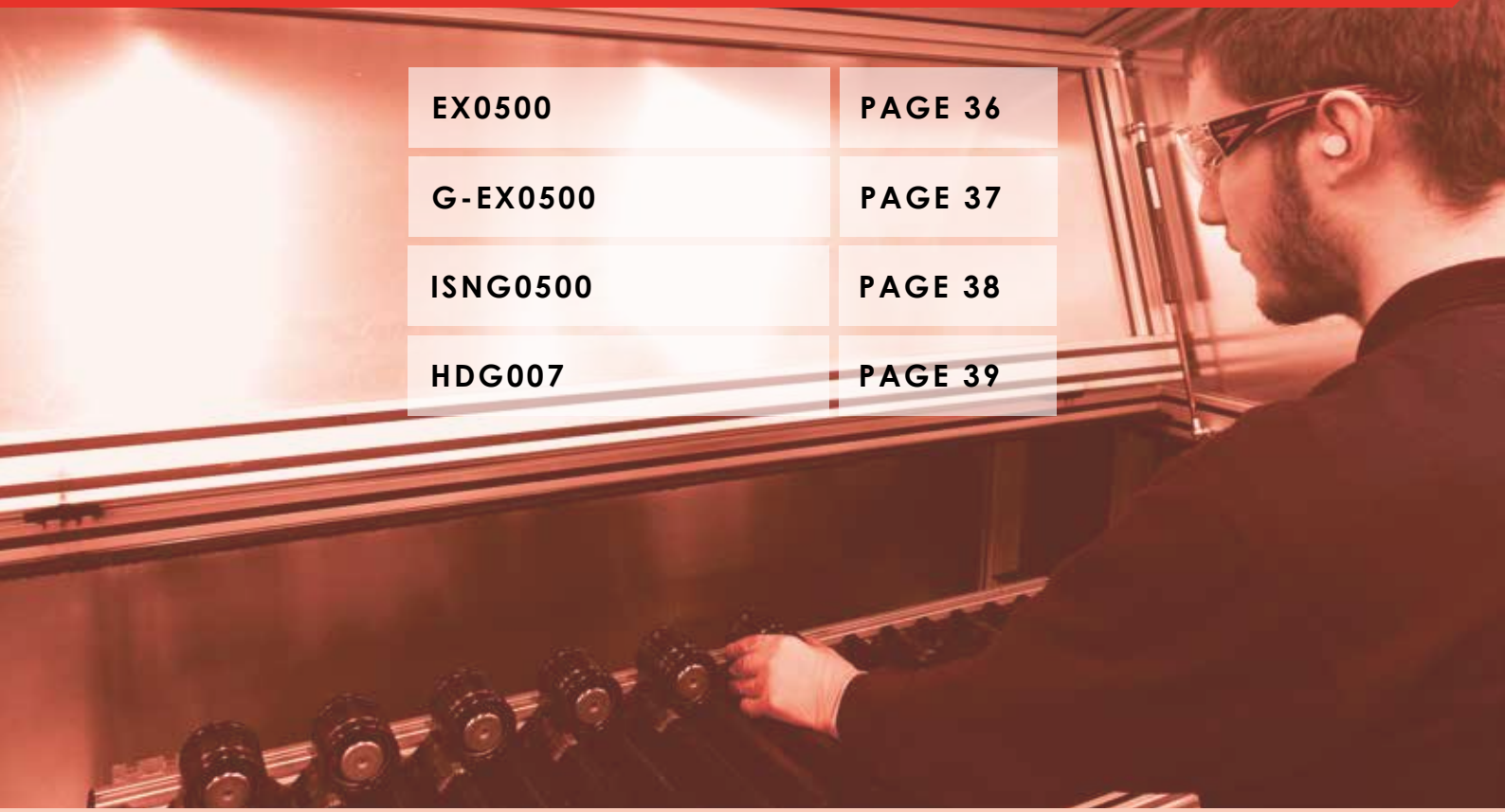
Drop-in Pocket

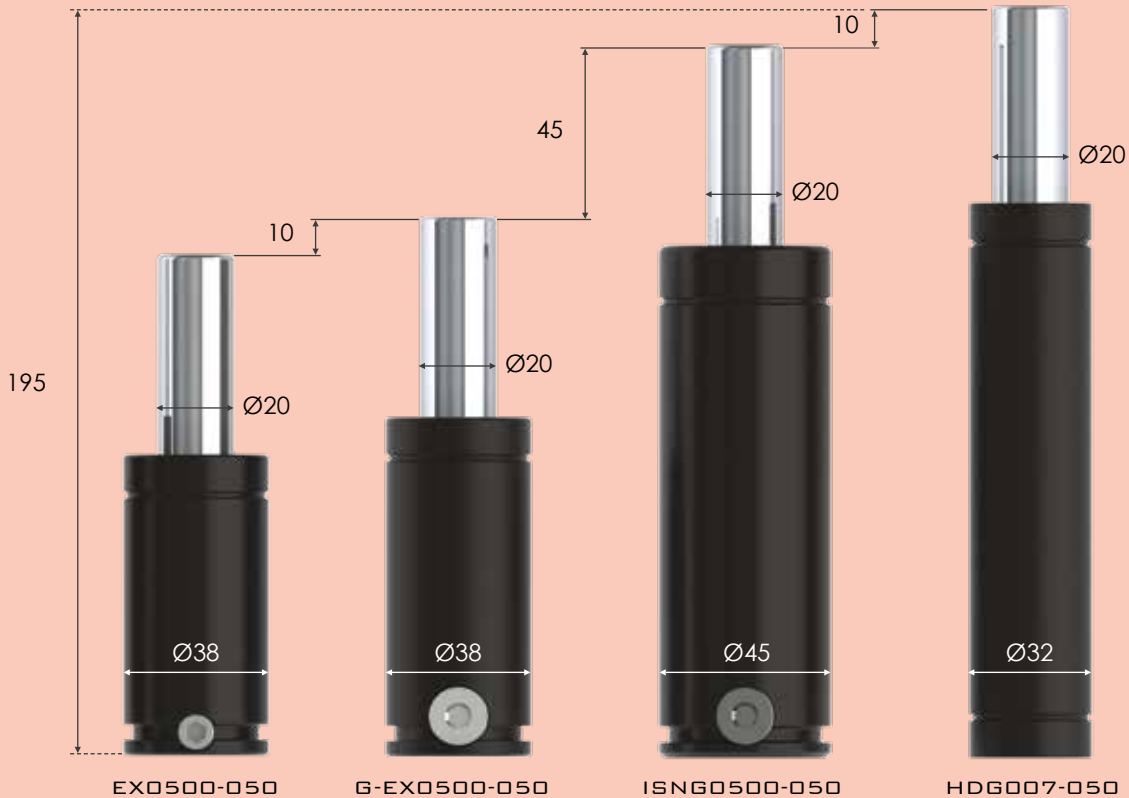
Front Flange 25 FF

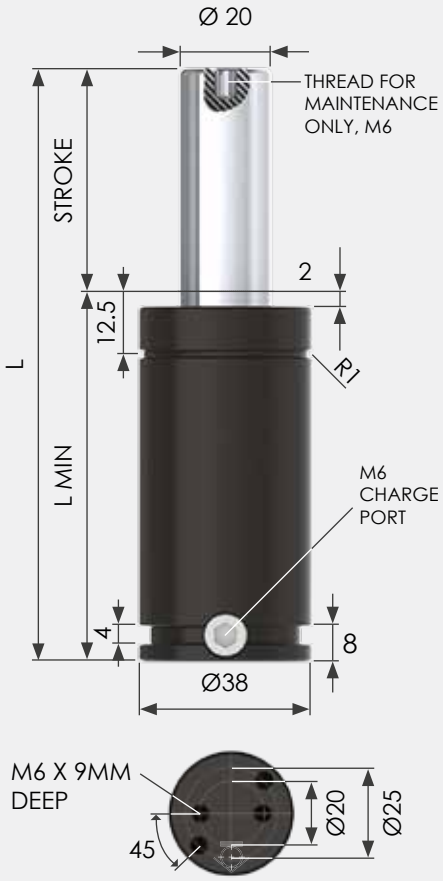
M6 Tapped Hole

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG0042 x 06 + FF

500 - 700KG







MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX0500-010	470	720	40	50	0.01	0.26
EX0500-013		710	43	56	0.01	0.27
EX0500-016		720	46	62	0.02	0.27
EX0500-019		740	49	68	0.02	0.30
EX0500-025		730	55	80	0.03	0.32
EX0500-032		720	62	94	0.03	0.35
EX0500-038		720	68	106	0.04	0.37
EX0500-050		720	80	130	0.05	0.43
EX0500-063		720	93	156	0.06	0.50
EX0500-075		710	105	180	0.07	0.54
EX0500-080		710	110	190	0.08	0.57
EX0500-100		710	130	230	0.10	0.66
EX0500-125		710	155	280	0.12	0.77

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX0500

ISO PED 2014/68/EU

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-20

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

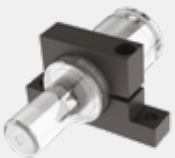
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 X M6 Tapped Holes

Square Front Flange 38 SFF

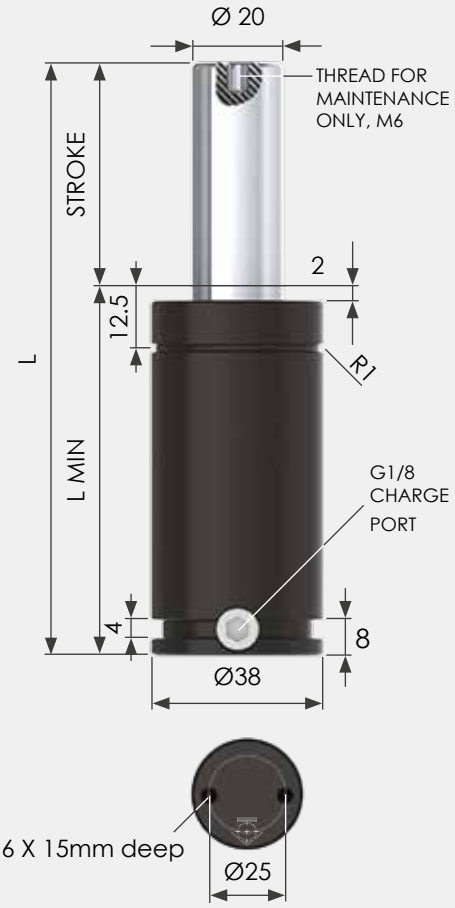
Front Flange 38 FF

Square Flange 38 SF



End Support 38 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX0500 X 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX0500-010	470	720	50	60	0.01	0.26
G-EX0500-013		710	53	66	0.01	0.27
G-EX0500-016		720	56	72	0.02	0.27
G-EX0500-019		740	59	78	0.02	0.30
G-EX0500-025		730	65	90	0.03	0.32
G-EX0500-032		720	72	104	0.03	0.35
G-EX0500-038		720	78	116	0.04	0.44
G-EX0500-050		720	90	140	0.05	0.51
G-EX0500-063		720	103	166	0.06	0.54
G-EX0500-075		710	115	190	0.07	0.58
G-EX0500-080		710	120	200	0.08	0.60
G-EX0500-100		710	140	240	0.10	0.77
G-EX0500-125		710	165	290	0.12	0.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX0500

PED 2014/68/EU

CODE: SRS-20

MOUNTING EXAMPLES

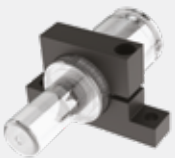
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 X M6 Tapped Holes

Square Front Flange 38 SFF

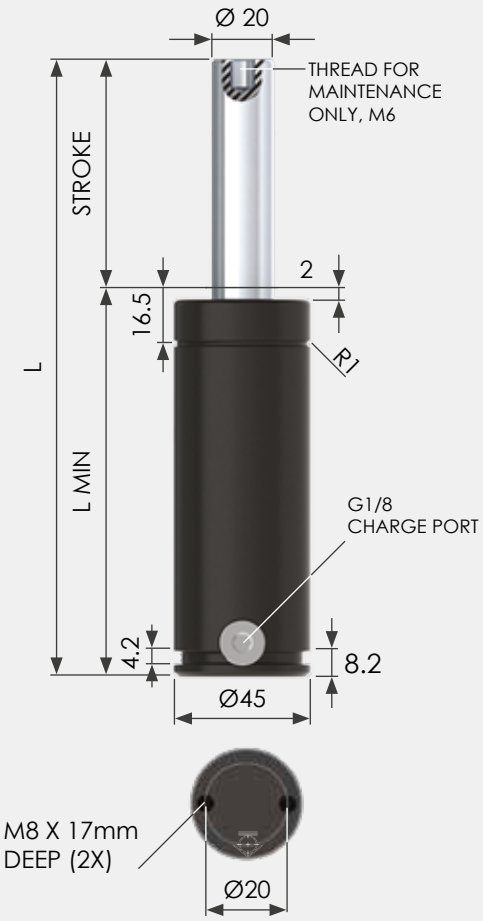
Front Flange 38 FF

Square Flange 38 SF



End Support 38 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX0500 x 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG0500-010	470	600	95	105	0.023	0.93
ISNG0500-013		610	97.7	110	0.025	0.95
ISNG0500-025		640	110	135	0.038	1.08
ISNG0500-038		650	123.1	161.2	0.051	1.19
ISNG0500-050		660	135	185	0.063	1.29
ISNG0500-063		660	148.5	212	0.077	1.38
ISNG0500-080		670	165	245	0.093	1.50
ISNG0500-100		670	185	285	0.114	1.70
ISNG0500-125		670	210	335	0.139	1.90
ISNG0500-160		670	245	405	0.175	2.22

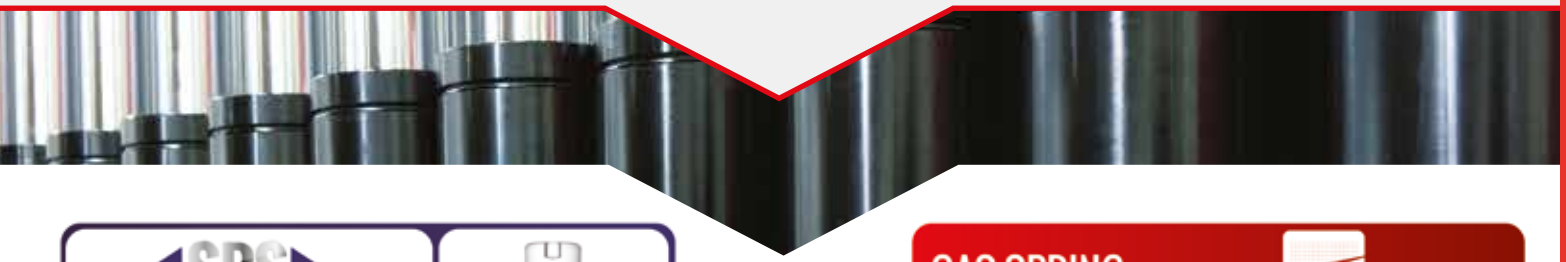
SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG0500

ISO PED 2014/68/EU



SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-20

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

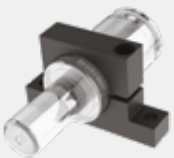
2 X M8 Tapped Holes

Square Front Flange 45 SFF

Front Flange 45 FF

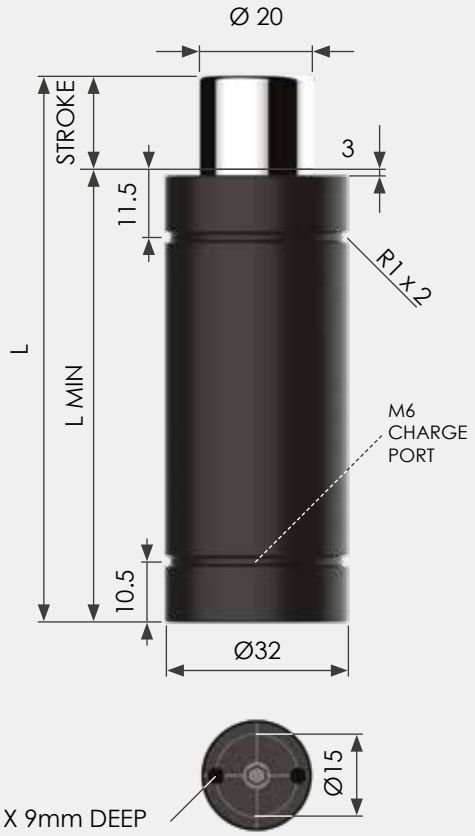
Square Flange 45 SF

Base Plate 45 BP



End Support 45 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG0500 x 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG007-06	740	1000	57	63	0.012	0.20
HDG007-10		1000	65	75	0.017	0.25
HDG007-16		1100	77	93	0.024	0.32
HDG007-25		1200	95	120	0.034	0.33
HDG007-32		1200	108	140	0.042	0.37
HDG007-40		1200	125	165	0.052	0.42
HDG007-50		1200	145	195	0.063	0.48

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

SERVICE KIT HDG007

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

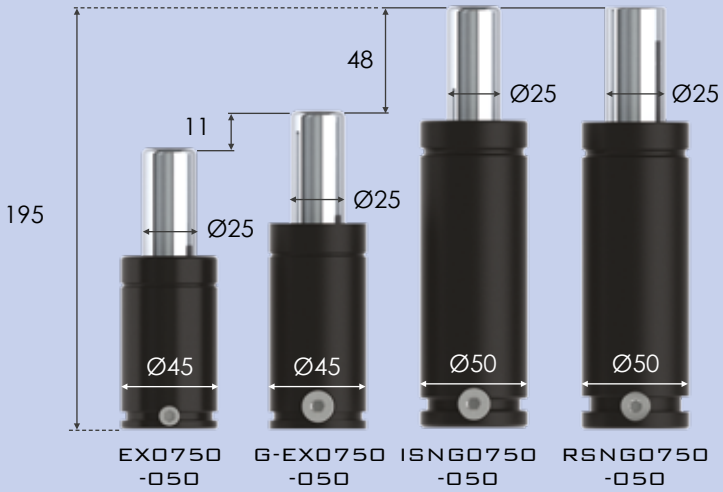
MOUNTING EXAMPLES

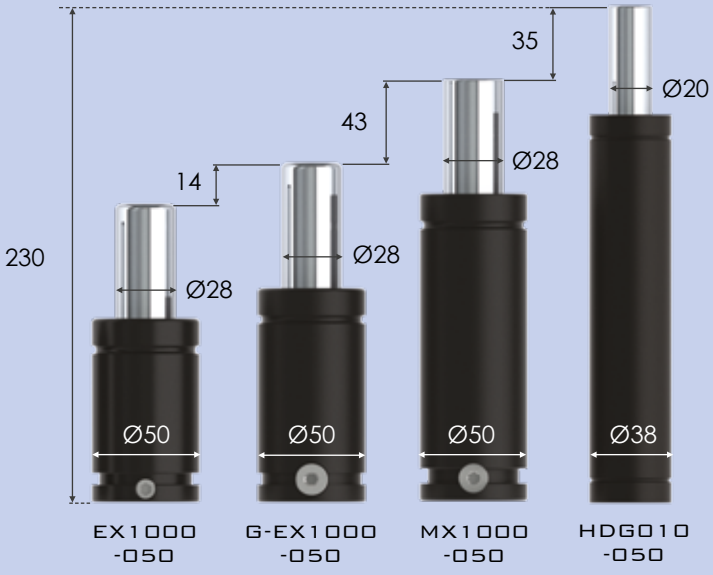
(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

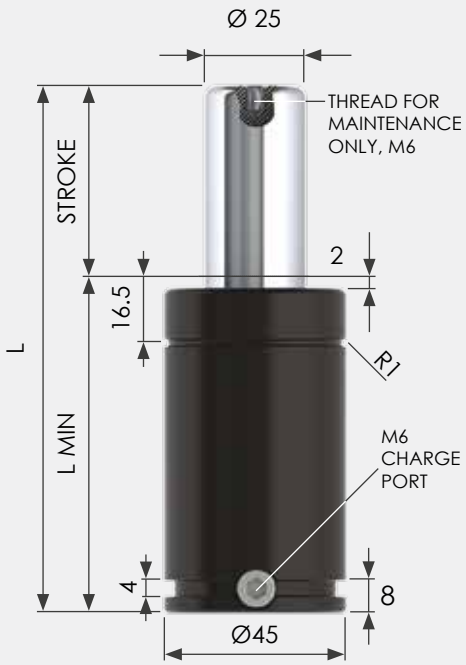
2 X M6 Tapped Holes | Square Front Flange 32 SFF | Front Flange 32 FF

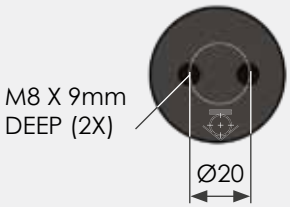
Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG007 x 06 + FF

750 - 1000KG









MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX0750-010	740	1210	42	52	0.02	0.37
EX0750-013		1210	45	58	0.02	0.40
EX0750-016		1210	48	64	0.03	0.42
EX0750-019		1170	51	70	0.03	0.45
EX0750-025		1180	57	82	0.04	0.48
EX0750-032		1180	64	96	0.05	0.54
EX0750-038		1180	70	108	0.05	0.57
EX0750-050		1180	82	132	0.07	0.66
EX0750-063		1180	95	158	0.09	0.73
EX0750-075		1190	107	182	0.10	0.77
EX0750-080		1190	112	192	0.11	0.84
EX0750-100		1190	132	232	0.13	0.94
EX0750-125		1190	157	282	0.17	1.10

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX0750

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-25

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

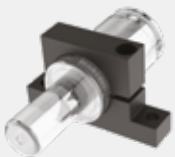
2 X M8 Tapped Holes

Square Front Flange 45 SFF

Front Flange 45 FF

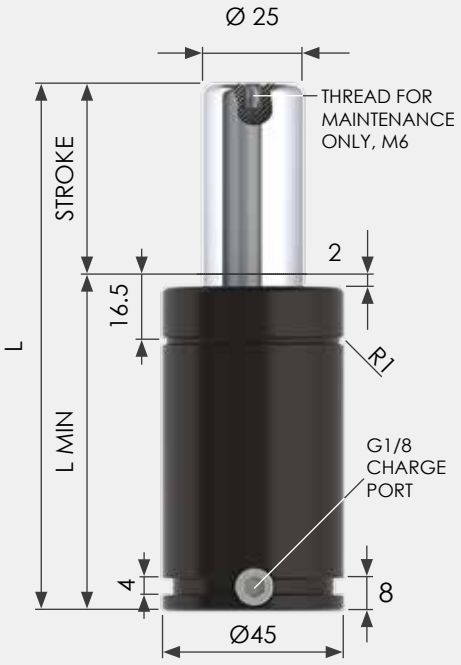
Square Flange 45 SF

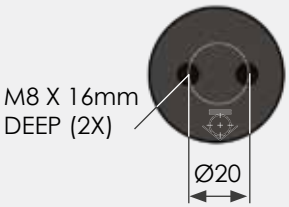
Base Plate 45 BP



End Support 45 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX0750 x 010 + FF





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX0750-010	740	1210	57	67	0.02	0.37
G-EX0750-013		1210	60	73	0.02	0.39
G-EX0750-016		1210	63	79	0.03	0.41
G-EX0750-019		1170	66	85	0.03	0.41
G-EX0750-025		1180	72	97	0.04	0.48
G-EX0750-032		1180	79	111	0.05	0.55
G-EX0750-038		1180	85	123	0.05	0.59
G-EX0750-050		1180	97	147	0.07	0.65
G-EX0750-063		1180	110	173	0.09	0.72
G-EX0750-075		1190	122	197	0.10	1.00
G-EX0750-080		1190	127	207	0.11	1.08
G-EX0750-100		1190	147	247	0.13	1.16
G-EX0750-125		1190	172	297	0.17	1.18

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX0750

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-25

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

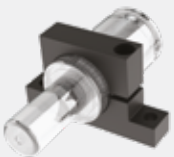
2 X M8 Tapped Holes

Square Front Flange 45 SFF

Front Flange 45 FF

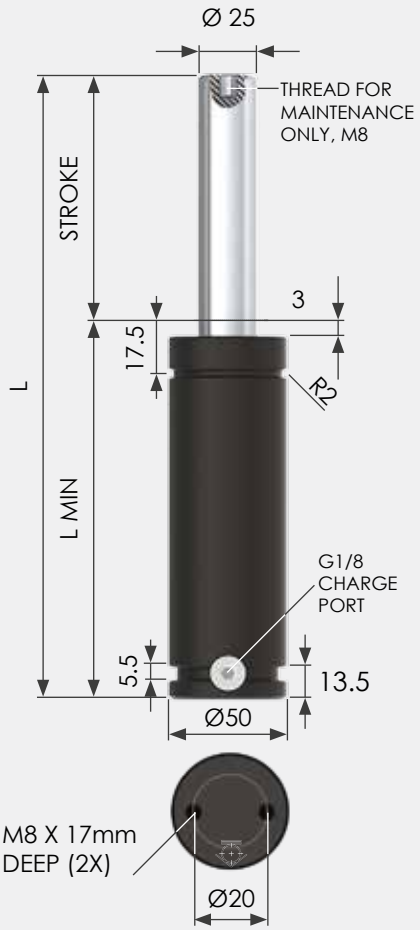
Square Flange 45 SF

Base Plate 45 BP



End Support 45 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX0750 x 010 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG0750-013	740	1200	107.7	120.4	0.03	1.33
ISNG0750-025		1200	120	145	0.04	1.40
ISNG0750-038		1200	133.1	171.2	0.06	1.57
ISNG0750-050		1200	145	195	0.07	1.67
ISNG0750-063		1200	158.5	222	0.09	1.80
ISNG0750-080		1200	175	255	0.11	1.94
ISNG0750-100		1200	195	295	0.14	2.11
ISNG0750-125		1210	220	345	0.17	2.37
ISNG0750-160		1210	255	415	0.21	2.69
ISNG0750-200		1210	295	495	0.26	3.07
ISNG0750-250		1210	345	595	0.33	3.55
ISNG0750-300		1210	395	695	0.39	3.98

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG0750

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-25-A

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

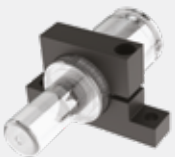
2 X M8 Tapped Holes

Square Front Flange
50 SFF

Front Flange
50 FF

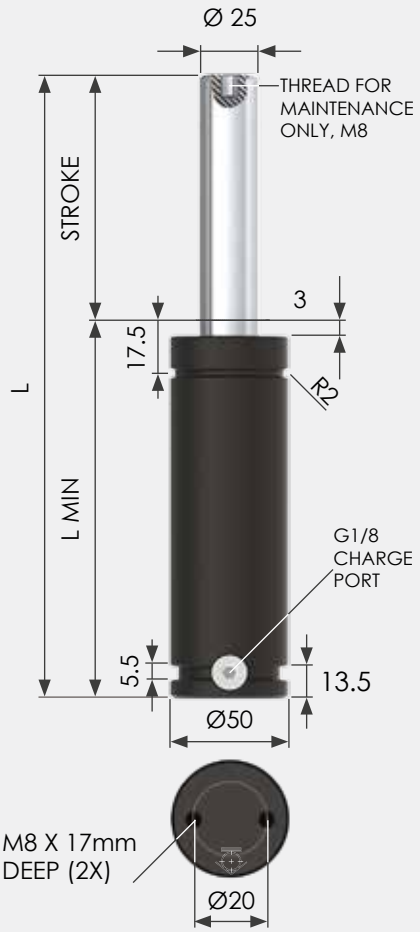
Square Flange
50 SF

Base Plate
50 BP



End Support
50 ES / 50 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG0750 x 12.7 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
RSNG0750-025	740	1200	120	145	0.04	1.44
RSNG0750-038		1200	133.1	171.2	0.06	1.57
RSNG0750-050		1200	145	195	0.07	1.60
RSNG0750-063		1200	158.5	222	0.09	1.78
RSNG0750-080		1200	175	255	0.11	1.94
RSNG0750-100		1200	195	295	0.14	2.13
RSNG0750-125		1210	220	345	0.17	2.37
RSNG0750-160		1210	255	415	0.21	2.70
RSNG0750-200		1210	295	495	0.26	3.10
RSNG0750-250		1210	345	595	0.33	3.60
RSNG0750-300		1210	395	695	0.39	4.10

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

The RSNG must be mounted piston side up.

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT RSNG0750

PED 2014/68/EU

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-25-A

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

Must be mounted rod side up.

Must be mounted rod side up

2 X M8 Tapped Holes

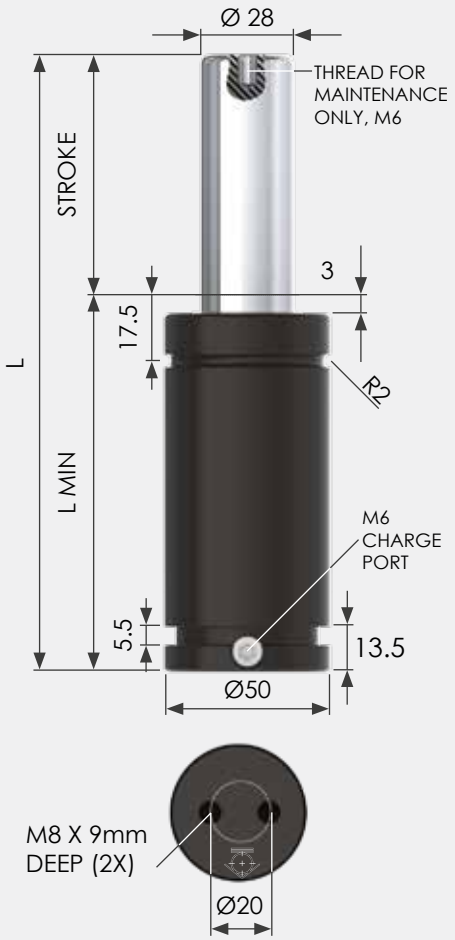
Square Front Flange 50 SFF

Front Flange 50 FF

Square Flange 50 SF

Base Plate 50 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: RSNG0750 x 12.7 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX1000-013	920	1380	51	64	0.03	0.51
EX1000-016		1380	54	70	0.04	0.53
EX1000-019		1400	57	76	0.04	0.56
EX1000-025		1420	63	88	0.05	0.59
EX1000-032		1430	70	102	0.06	0.64
EX1000-038		1450	76	114	0.07	0.75
EX1000-050		1460	88	138	0.09	0.85
EX1000-063		1470	101	164	0.11	0.96
EX1000-075		1470	113	188	0.13	1.08
EX1000-080		1480	118	198	0.14	1.10
EX1000-100		1480	138	238	0.17	1.28
EX1000-125		1480	163	288	0.21	1.39

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX1000

ISO

PED 2014/68/EU

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

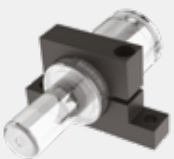
2 X M8 Tapped Holes

Square Front Flange
50 SFF

Front Flange
50 FF

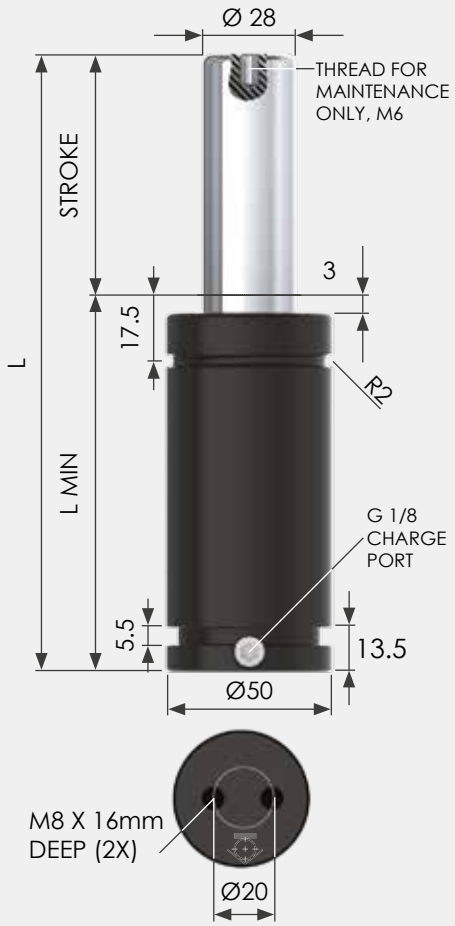
Square Flange
50 SF

Base Plate
50 BP



End Support
50 ES / 50 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX1000 x 013 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX1000-013	920	1380	65	78	0.03	0.50
G-EX1000-016		1380	68	84	0.04	0.52
G-EX1000-019		1400	71	90	0.04	0.54
G-EX1000-025		1420	77	102	0.05	0.59
G-EX1000-032		1430	84	116	0.06	0.70
G-EX1000-038		1450	90	128	0.07	0.75
G-EX1000-050		1460	102	152	0.09	0.90
G-EX1000-063		1470	115	178	0.11	0.90
G-EX1000-075		1470	127	202	0.13	1.07
G-EX1000-080		1480	132	212	0.14	1.10
G-EX1000-100		1480	152	252	0.17	1.34
G-EX1000-125		1480	177	302	0.21	1.39

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX1000

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-28

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

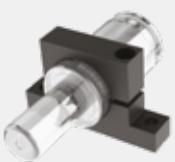
2 X M8 Tapped Holes

Square Front Flange 50 SFF

Front Flange 50 FF

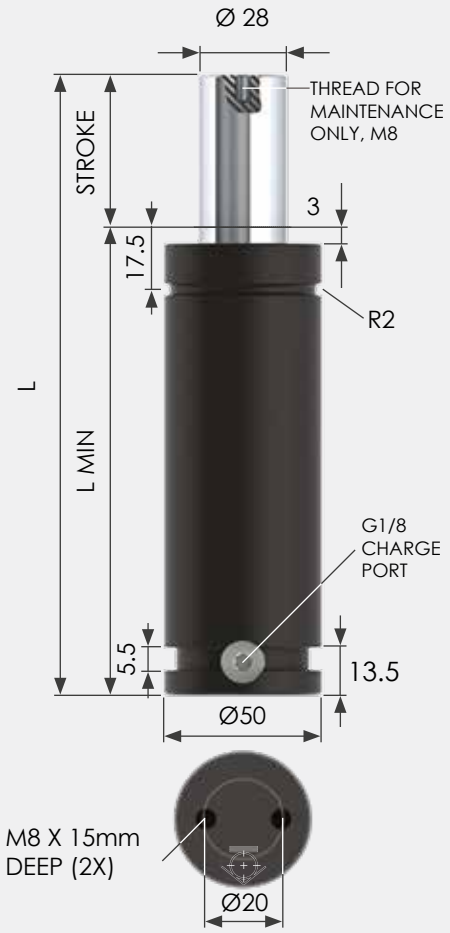
Square Flange 50 SF

Base Plate 50 BP



End Support 50 ES / 50 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX1000 x 013 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
MX1000-013	920	1120	108	121	0.06	1.25
MX1000-025		1210	120	145	0.07	1.38
MX1000-038		1280	133	171	0.09	1.50
MX1000-050		1320	145	195	0.11	1.60
MX1000-063		1350	158	221	0.13	1.64
MX1000-075		1370	170	245	0.15	1.88
MX1000-080		1380	175	255	0.16	2.01
MX1000-100		1410	195	295	0.19	2.14
MX1000-125		1430	220	345	0.23	2.40
MX1000-150		1450	245	395	0.27	2.55
MX1000-160		1450	255	415	0.28	2.76
MX1000-175		1460	270	445	0.30	2.90
MX1000-200		1470	295	495	0.34	3.15
MX1000-250		1480	345	595	0.42	3.35
MX1000-300		1490	395	695	0.49	3.58

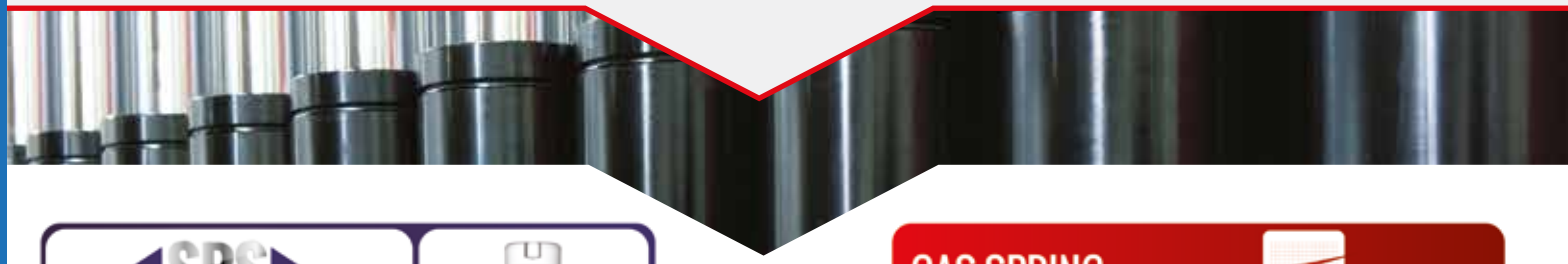
SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT MX1000

ISO PED 2014/68/EU



SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-28

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

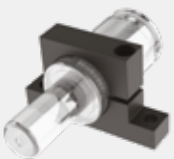
2 X M8 Tapped Holes

Square Front Flange
50 SFF

Front Flange
50 FF

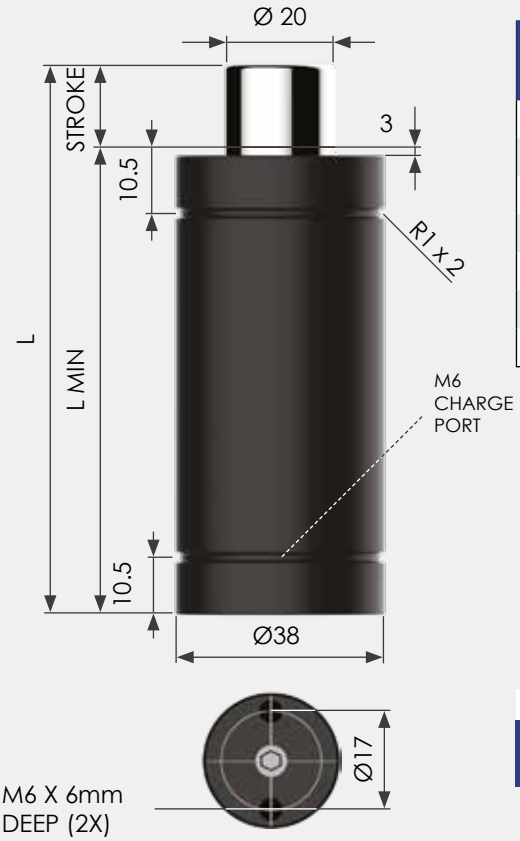
Square Flange
50 SF

Base Plate
50 BP



End Support
50 ES / 50 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MX1000 x 013 + FF



M6 X 6mm
DEEP (2X)

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG010-06	1060	1600	55	61	0.014	0.30
HDG010-10		1600	68	78	0.024	0.40
HDG010-16		1600	84	100	0.036	0.50
HDG010-25		1600	110	135	0.056	0.50
HDG010-32		1600	135	167	0.074	0.70
HDG010-40		1600	155	195	0.092	0.80
HDG010-50		1600	180	230	0.110	0.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

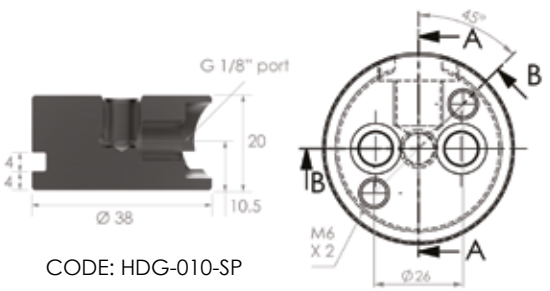
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

HOSE SYSTEMS AVAILABLE WITH SIDE PORT

SERVICE KIT HDG010

PED 2014/68/EU



CODE: HDG-010-SP

HDG SIDE PORT PLATES ENABLE HDG SPRINGS TO BE CONNECTED TO A HOSE SYSTEM

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 x M6 Tapped Holes

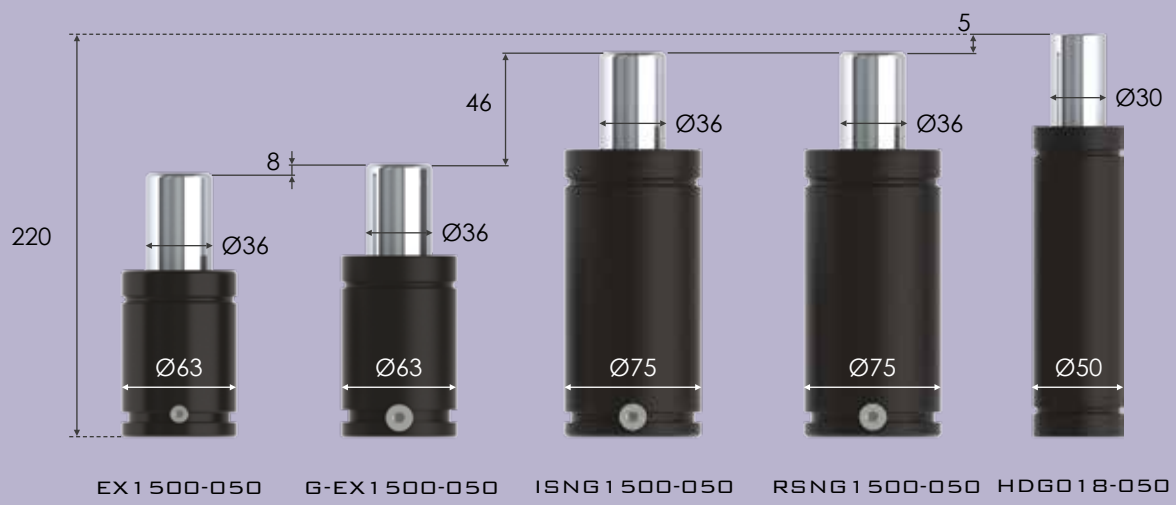
Square Front Flange 38 SFF

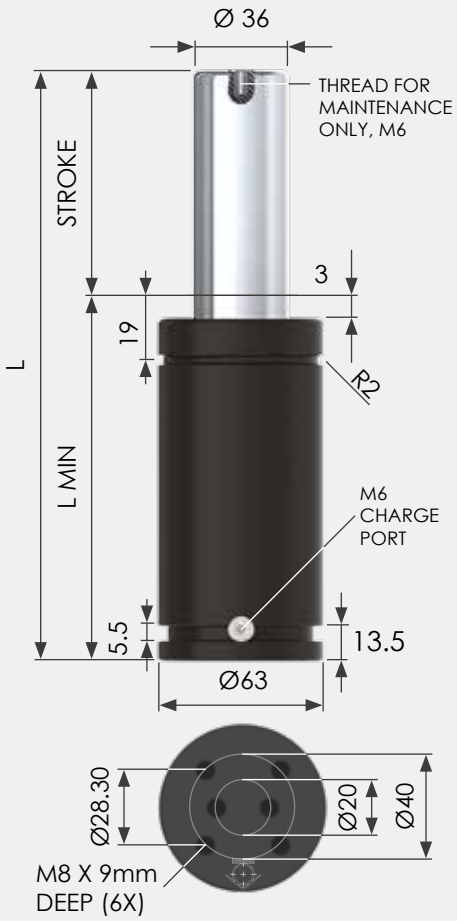
Front Flange 38 FF

HDG-010-SP + Square Flange 38 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG010 x 06 + FF

1500 - 1800KG





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX1500-013	1500	2400	57	70	0.05	0.98
EX1500-016		2410	60	76	0.06	1.04
EX1500-019		2420	63	82	0.07	1.09
EX1500-025		2430	69	94	0.08	1.16
EX1500-032		2380	76	108	0.11	1.24
EX1500-038		2390	82	120	0.12	1.48
EX1500-050		2400	94	144	0.15	1.50
EX1500-063		2410	107	170	0.19	1.68
EX1500-075		2420	119	194	0.22	1.82
EX1500-080		2420	124	204	0.24	1.86
EX1500-100		2430	144	244	0.29	2.21
EX1500-125		2430	169	294	0.36	2.50

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX1500

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-36

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 X M8 Tapped Holes

Square Front Flange
63 SFF - 63 SFFA

Front Flange
63 FF

Square Flange
63 SF

Base Plate
63 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX1500 x 013 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX1500-013	1500	2400	65	78	0.05	0.89
G-EX1500-016		2410	68	84	0.06	0.93
G-EX1500-019		2420	71	90	0.07	0.96
G-EX1500-025		2430	77	102	0.08	1.16
G-EX1500-032		2380	84	116	0.11	1.18
G-EX1500-038		2390	90	128	0.12	1.20
G-EX1500-050		2400	102	152	0.15	1.50
G-EX1500-063		2410	115	178	0.19	1.63
G-EX1500-075		2420	127	202	0.22	2.04
G-EX1500-080		2420	132	212	0.24	2.10
G-EX1500-100		2430	152	252	0.29	2.22
G-EX1500-125		2430	177	302	0.36	2.72

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX1500

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-36

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 X M8 Tapped Holes

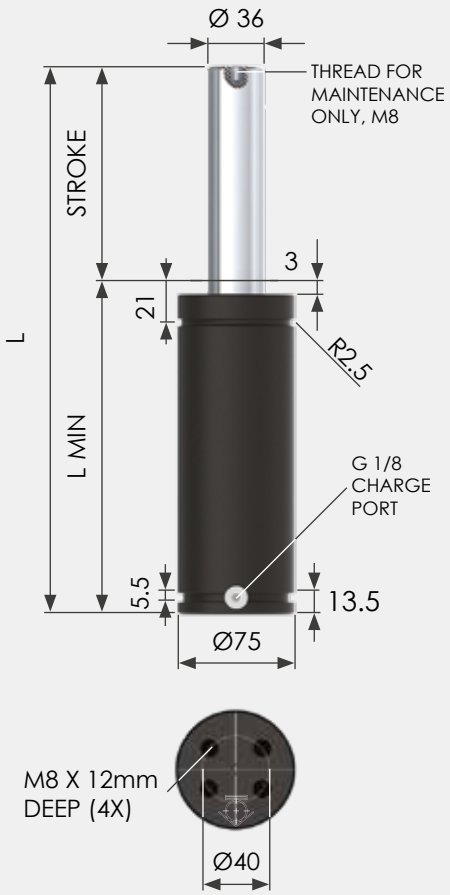
Square Front Flange
63 SFF - 63 SFFA

Front Flange
63 FF

Square Flange
63 SF

Base Plate
63 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX1500 x 013 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG1500-025	1500	2300	135	160	0.10	3.45
ISNG1500-038		2300	148.1	186.2	0.15	3.87
ISNG1500-050		2300	160	210	0.18	3.92
ISNG1500-063		2300	173.5	237	0.22	4.16
ISNG1500-080		2300	190	270	0.28	4.48
ISNG1500-100		2300	210	310	0.34	4.66
ISNG1500-125		2300	235	360	0.42	5.20
ISNG1500-160		2300	270	430	0.53	5.91
ISNG1500-200		2300	310	510	0.68	6.90
ISNG1500-250		2300	360	610	0.81	7.60
ISNG1500-300		2300	410	710	0.96	8.90

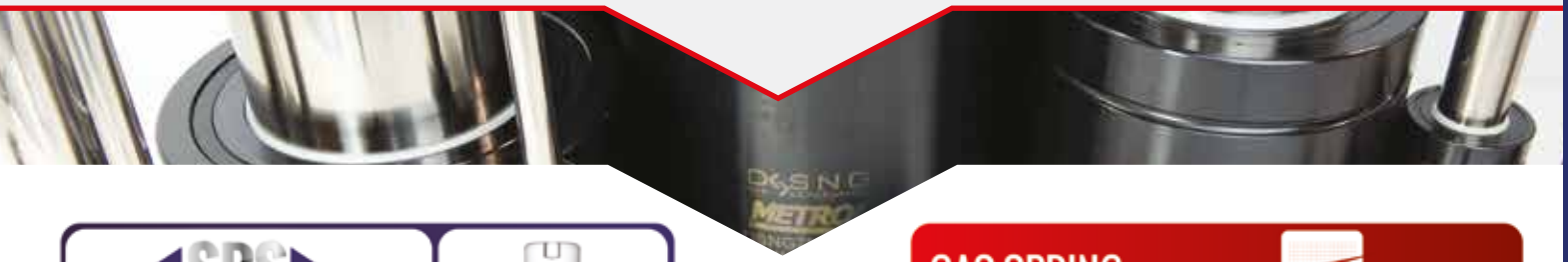
SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG1500

ISO PED 2014/68/EU



SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-36-A

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

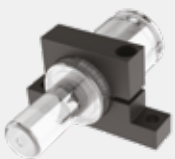
4 X M8 Tapped Holes

Square Front Flange 75 SFF

Front Flange 75 FF

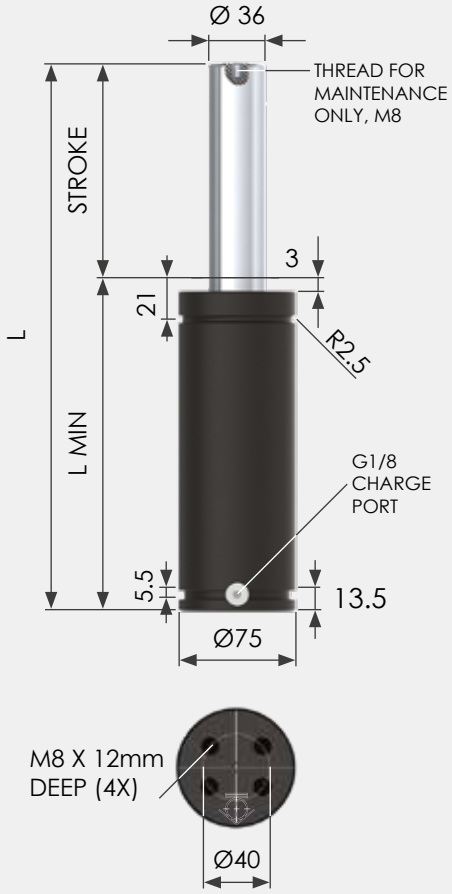
Square Flange 75 SF

Base Plate 75 BP



End Support 75 ES / 75 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG1500 x 025 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
RSNG1500-025	1500	2300	135	160	0.10	3.65
RSNG1500-038		2300	148.1	186.2	0.15	3.79
RSNG1500-050		2300	160	210	0.18	3.84
RSNG1500-063		2300	173.5	237	0.22	4.15
RSNG1500-080		2300	190	270	0.28	4.28
RSNG1500-100		2300	210	310	0.34	4.48
RSNG1500-125		2300	235	360	0.42	5.48
RSNG1500-160		2300	270	430	0.53	6.12
RSNG1500-200		2300	310	510	0.68	6.90
RSNG1500-250		2300	360	610	0.81	7.80
RSNG1500-300		2300	410	710	0.96	8.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

The RSNG must be mounted piston side up.

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT RSNG1500

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-36-A

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

Must be mounted rod side up.

Must be mounted rod side up

4 X M10 Tapped Holes

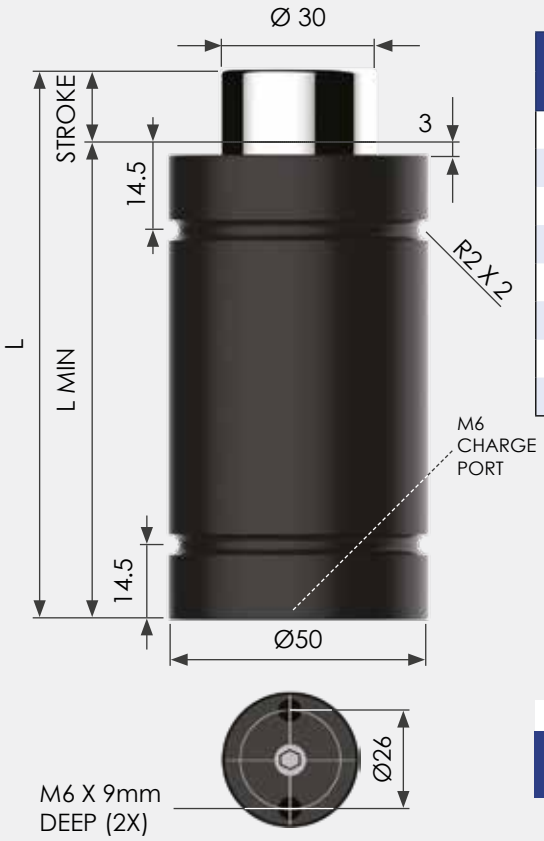
Square Front Flange 75 SFF

Front Flange 75 FF

Square Flange 75 SF

Base Plate 75 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: RSNG1500 x 025 + FF



M6 X 9mm
DEEP (2X)

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG018-06	1800	2400	60	66	0.030	0.60
HDG018-10		2500	70	80	0.044	0.70
HDG018-16		2500	90	106	0.072	0.80
HDG018-25		2600	110	135	0.100	0.90
HDG018-32		2600	130	162	0.126	1.10
HDG018-40		2600	150	190	0.150	1.20
HDG018-50		2700	170	220	0.179	1.40
HDG018-65		2800	206	271	0.240	1.50

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

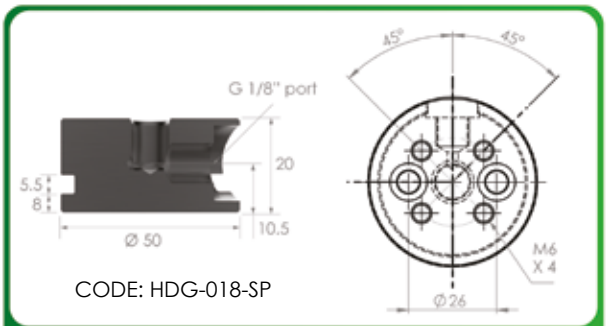
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

HOSE SYSTEMS AVAILABLE WITH SIDE PORT

SERVICE KIT HDG018

PED 2014/68/EU



CODE: HDG-018-SP

HDG SIDE PORT PLATES ENABLE HDG SPRINGS TO BE CONNECTED TO A HOSE SYSTEM

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 x M6 Tapped Holes

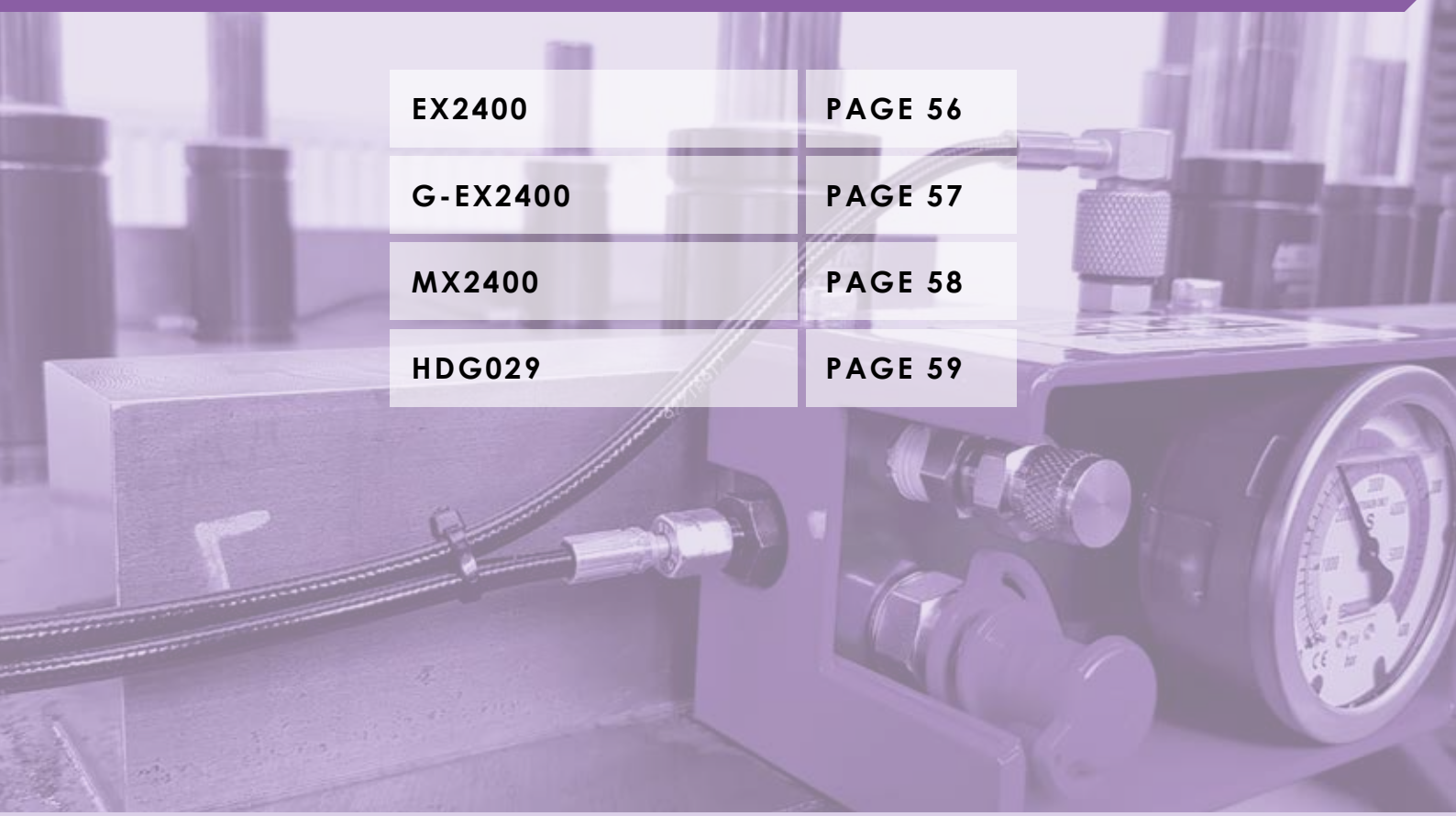
Square Front Flange 50 SFF

Front Flange 50 FF

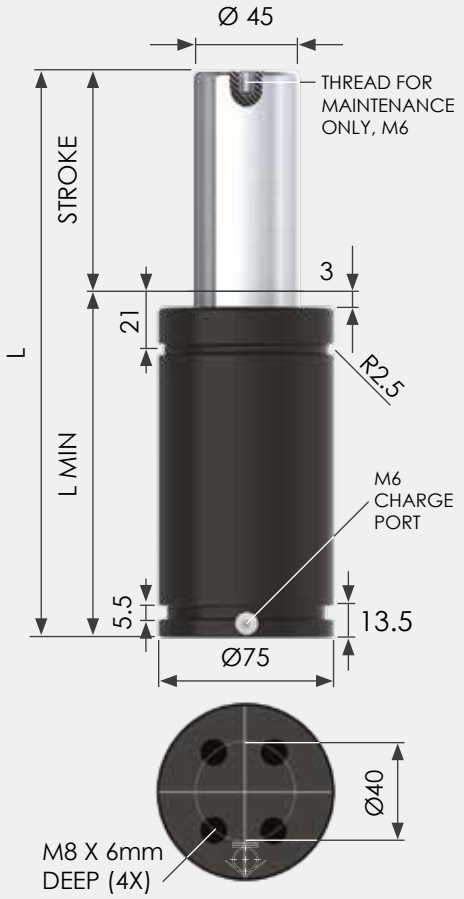
HDG-018-SP + Square Flange 50 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG018 x 06 + FF

2400 - 2900KG



EX2400-050 G-EX2400-050 HDG029-050 MX2400-050



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX2400-016	2400	3830	61	77	0.09	1.48
EX2400-019		3850	64	83	0.10	1.53
EX2400-025		3870	70	95	0.13	1.63
EX2400-032		3860	77	109	0.16	1.78
EX2400-038		3840	83	121	0.18	1.90
EX2400-050		3920	95	145	0.23	2.13
EX2400-063		3920	108	171	0.28	2.34
EX2400-075		3920	120	195	0.33	2.45
EX2400-080		3920	125	205	0.35	2.66
EX2400-100		3930	145	245	0.43	3.00
EX2400-125		3930	170	295	0.54	3.50

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

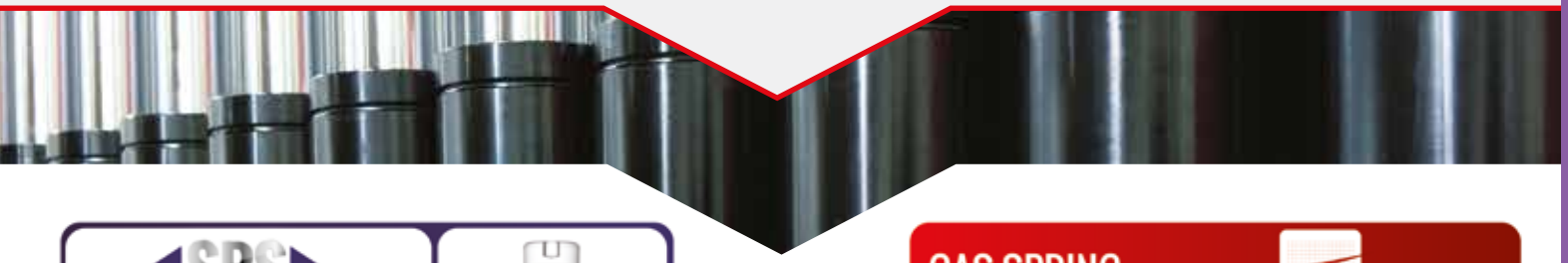
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX2400

ISO

PED 2014/68/EU



SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-45

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

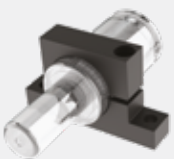
4 X M8 Tapped Holes

Square Front Flange 75 SFF

Front Flange 75 FF

Square Flange 75 SF

Base Plate 75 BP



End Support 75 ES / 75 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX2400 x 016 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX2400-016	2400	3830	75	91	0.09	1.34
G-EX2400-019		3850	78	97	0.10	1.38
G-EX2400-025		3870	84	109	0.13	1.45
G-EX2400-032		3860	91	123	0.16	1.90
G-EX2400-038		3840	97	135	0.18	2.01
G-EX2400-050		3920	109	159	0.23	2.13
G-EX2400-063		3920	122	185	0.28	2.35
G-EX2400-075		3920	134	209	0.33	2.70
G-EX2400-080		3920	139	219	0.35	3.00
G-EX2400-100		3930	159	259	0.43	3.15
G-EX2400-125		3930	184	309	0.54	3.54

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX2400

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

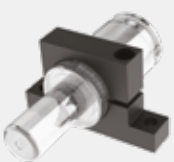
4 X M8 Tapped Holes

Square Front Flange 75 SFF

Front Flange 75 FF

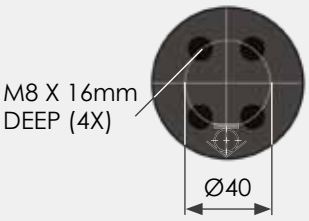
Square Flange 75 SF

Base Plate 75 BP



End Support 75 ES / 75 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX2400 x 016 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
MX2400-025	2400	3710	135	160	0.23	3.31
MX2400-038		3760	148	186	0.28	3.59
MX2400-050		3790	160	210	0.33	3.84
MX2400-063		3810	173	236	0.38	4.07
MX2400-075		3830	185	260	0.43	4.20
MX2400-080		3830	190	270	0.45	4.48
MX2400-100		3850	210	310	0.53	4.76
MX2400-125		3870	235	360	0.63	5.28
MX2400-150		3880	260	410	0.73	5.87
MX2400-160		3880	270	430	0.77	6.07
MX2400-175		3890	285	460	0.83	6.44
MX2400-200		3890	310	510	0.93	6.78
MX2400-250		3900	360	610	1.17	6.95
MX2400-300		3910	410	710	1.33	7.44

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT MX2400

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-45

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

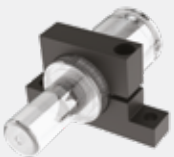
4 X M8 Tapped Holes

Square Front Flange
75 SFF

Front Flange
75 FF

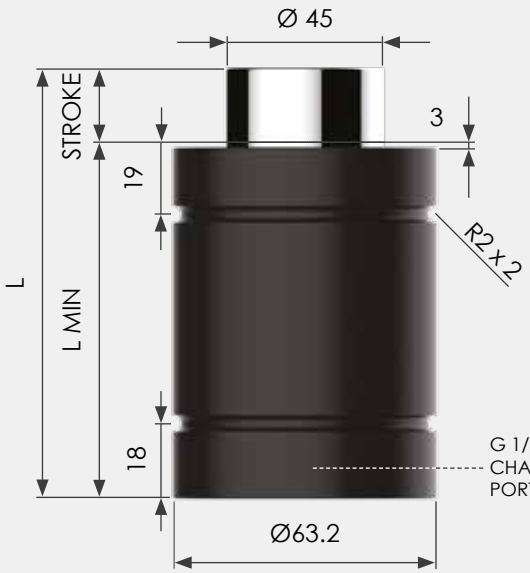
Square Flange
75 SF

Base Plate
75 BP



End Support
75 ES / 75 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MX2400 x 025 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG029-10	2950	4000	75	85	0.08	1.10
HDG029-16		4200	87	103	0.12	1.30
HDG029-25		4500	105	130	0.16	1.50
HDG029-32		4620	118	150	0.20	1.70
HDG029-40		4720	135	175	0.24	1.70
HDG029-50		4500	155	205	0.29	1.70
HDG029-65		4700	191	256	0.35	1.80

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

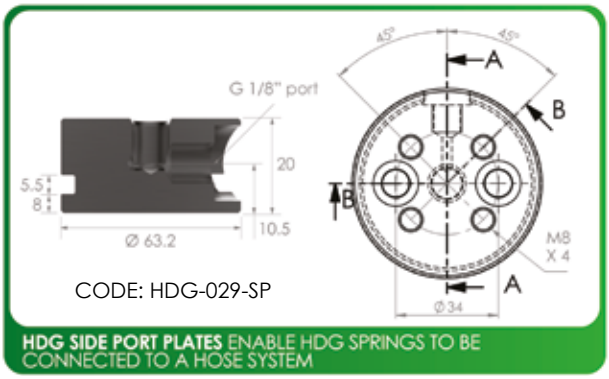
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

HOSE SYSTEMS AVAILABLE WITH SIDE PORT

SERVICE KIT HDG029

PED 2014/68/EU



CODE: HDG-029-SP

HDG SIDE PORT PLATES ENABLE HDG SPRINGS TO BE CONNECTED TO A HOSE SYSTEM

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

2 X M8 Tapped Holes

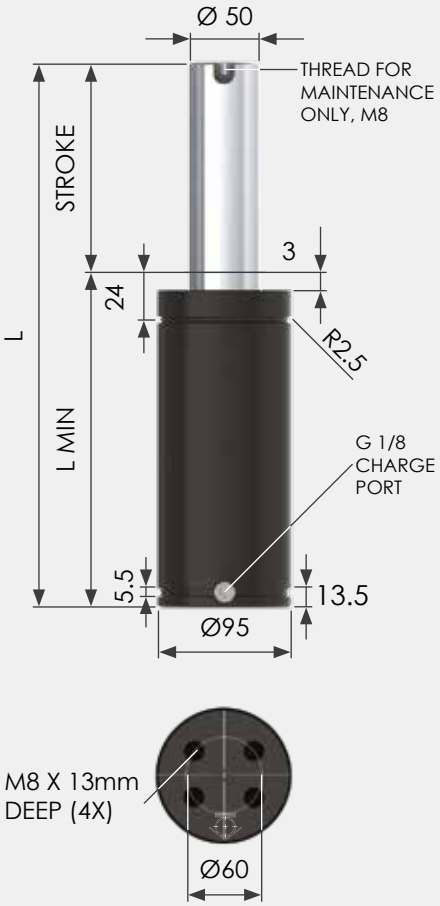
Square Front Flange
63 SFF - 63 SFFA

Front Flange
63 FF

HDG-029-SP +
Square Flange 63 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG029 x 10 + SFF

3000 - 4700KG



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG3000-025	3000	4200	145	170	0.20	6.00
ISNG3000-038		4300	158.1	196.2	0.26	6.33
ISNG3000-050		4400	170	220	0.32	6.69
ISNG3000-063		4500	183.5	247	0.38	7.09
ISNG3000-080		4600	200	280	0.46	7.50
ISNG3000-100		4700	220	320	0.56	7.79
ISNG3000-125		4700	245	370	0.69	8.70
ISNG3000-160		4700	280	440	0.87	9.80
ISNG3000-200		4800	320	520	1.07	11.00
ISNG3000-250		4800	370	620	1.32	12.36
ISNG3000-300		4800	420	720	1.57	15.30

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG3000

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-50

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

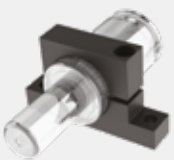
4 X M8 Tapped Holes

Square Front Flange
95 SFF

Front Flange
95 FF

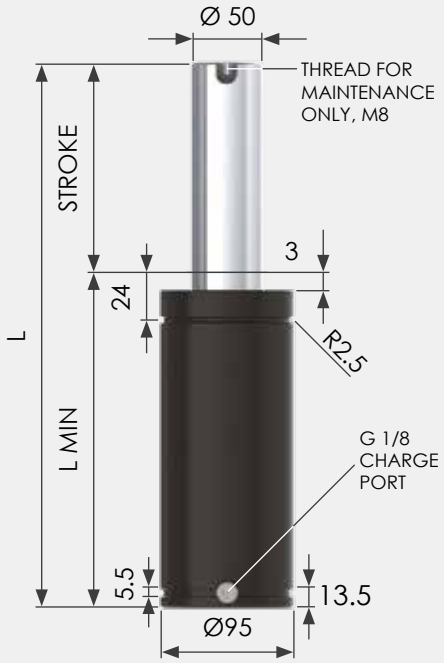
Square Flange
95 SF

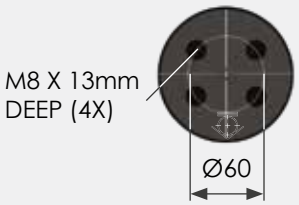
Base Plate
95 BP



End Support
95 ES / 95 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG3000 x 025 + FF





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
RSNG3000-025	3000	4200	145	170	0.20	6.45
RSNG3000-038		4300	158.1	196.2	0.26	6.60
RSNG3000-050		4400	170	220	0.32	6.68
RSNG3000-063		4500	183.5	247	0.38	7.20
RSNG3000-080		4600	200	280	0.46	7.42
RSNG3000-100		4700	220	320	0.56	7.79
RSNG3000-125		4700	245	370	0.69	9.63
RSNG3000-160		4700	280	440	0.87	10.74
RSNG3000-200		4800	320	520	1.07	12.20
RSNG3000-250		4800	370	620	1.32	13.70
RSNG3000-300		4800	420	720	1.57	15.30

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

The RSNG must be mounted piston side up.

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 50 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT RSNG3000

PED 2014/68/EU

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-50

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

Must be mounted rod side up.

Must be mounted rod side up

4 X M8 Tapped Holes

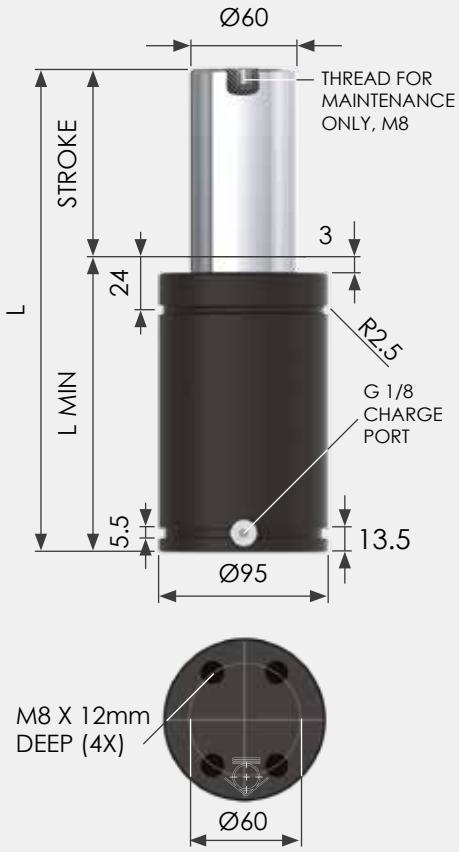
Square Front Flange 95 SFF

Front Flange 95 FF

Square Flange 95 SF

Base Plate 95 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: RSNG3000 x 025 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX4200-016	4200	6170	74	90	0.15	2.95
EX4200-019		6370	77	96	0.18	3.05
EX4200-025		6080	83	108	0.26	3.22
EX4200-032		6430	90	122	0.30	3.38
EX4200-038		6580	96	134	0.32	3.59
EX4200-050		6700	108	158	0.40	3.87
EX4200-063		6780	121	184	0.49	4.23
EX4200-075		6800	133	208	0.58	4.58
EX4200-080		6860	138	218	0.61	4.75
EX4200-100		6910	158	258	0.74	5.27
EX4200-125		6960	183	308	0.91	5.50

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX4200

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-60

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

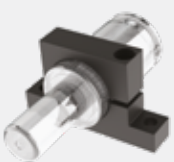
4 X M8 Tapped Holes

Square Front Flange
95 SFF

Front Flange
95 FF

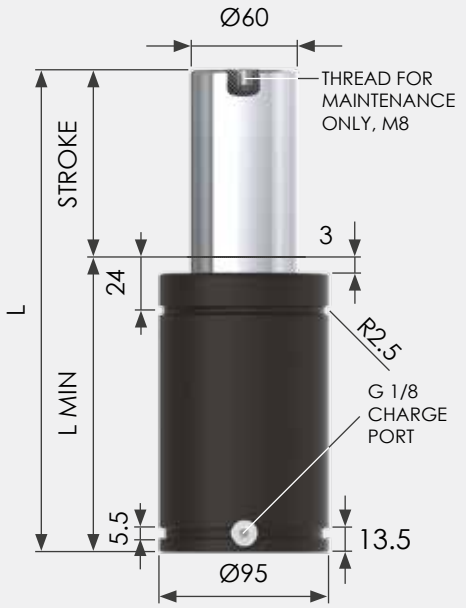
Square Flange
95 SF

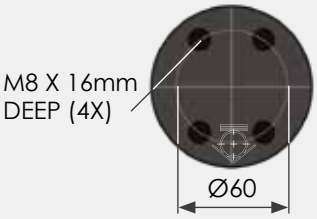
Base Plate
95 BP



End Support
95 ES / 95 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX4200 x 016 + FF





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX4200-016	4200	6170	78	94	0.15	2.95
G-EX4200-019		6370	81	100	0.18	3.05
G-EX4200-025		6080	87	112	0.26	3.20
G-EX4200-032		6430	94	126	0.30	3.38
G-EX4200-038		6580	100	138	0.32	3.59
G-EX4200-050		6700	112	162	0.40	3.62
G-EX4200-063		6780	125	188	0.49	4.37
G-EX4200-075		6800	137	212	0.58	4.58
G-EX4200-080		6860	142	222	0.61	4.70
G-EX4200-100		6910	162	262	0.74	5.27
G-EX4200-125		6960	187	312	0.91	5.42

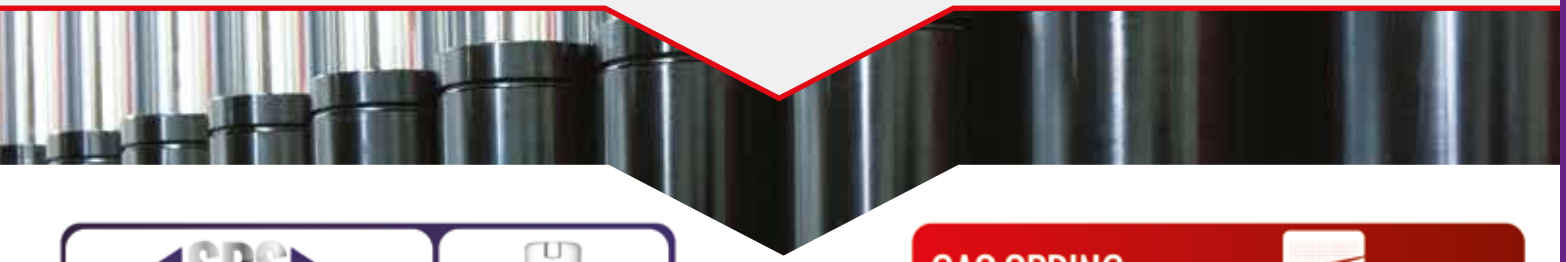
SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX4200

PED 2014/68/EU



SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-60

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

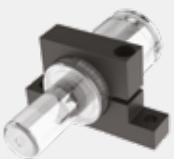
4 X M8 Tapped Holes

Square Front Flange
95 SFF

Front Flange
95 FF

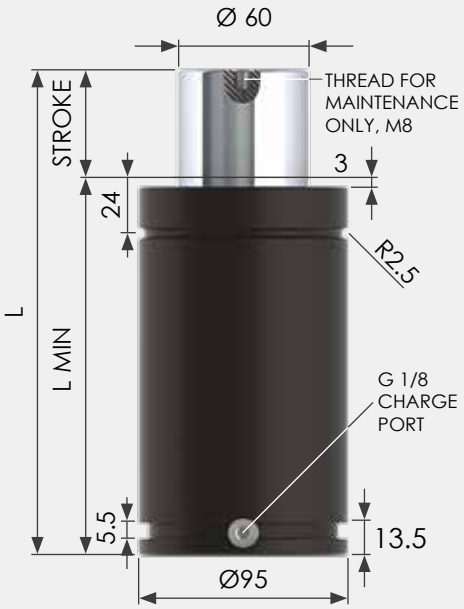
Square Flange
95 SF

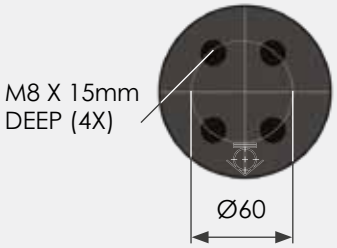
Base Plate
95 BP



End Support
95 ES / 95 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX4200 x 016 + FF





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
MX4200-025	4200	5210	145	170	0.43	5.08
MX4200-038		5510	158	196	0.52	5.90
MX4200-050		5720	170	220	0.60	6.26
MX4200-063		5900	183	246	0.68	6.61
MX4200-075		6030	195	270	0.76	6.95
MX4200-080		6080	200	280	0.80	7.48
MX4200-100		6250	220	320	0.93	8.51
MX4200-125		6400	245	370	1.10	9.10
MX4200-150		6510	270	420	1.27	9.72
MX4200-160		6550	280	440	1.33	10.00
MX4200-175		6600	295	470	1.43	10.50
MX4200-200		6680	320	520	1.60	12.30
MX4200-250		6790	370	620	1.93	12.95
MX4200-300		6870	420	720	2.27	13.78

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT MX4200

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-60

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

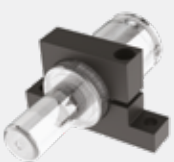
4 X M8 Tapped Holes

Square Front Flange
95 SFF

Front Flange
95 FF

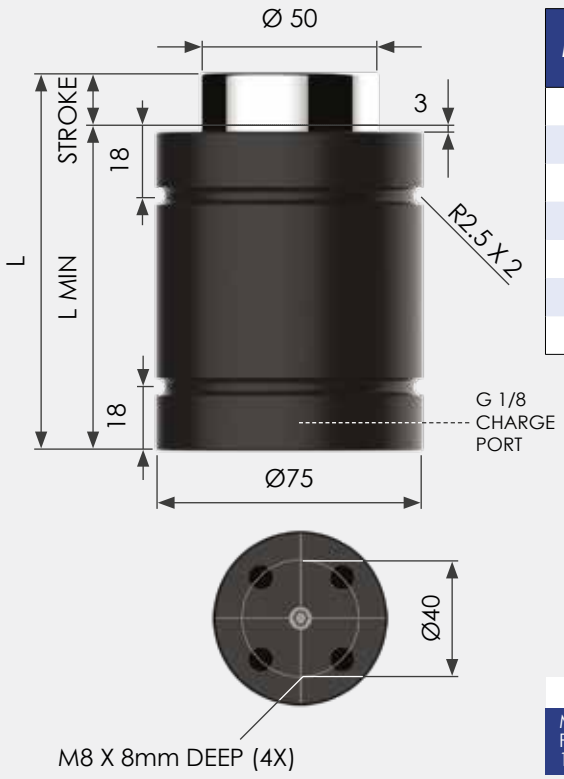
Square Flange
95 SF

Base Plate
95 BP



End Support
95 ES / 95 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MX4200 x 025 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG047-10	4700	6700	70	80	0.10	1.40
HDG047-16		6600	90	106	0.17	1.60
HDG047-25		6800	110	135	0.24	2.00
HDG047-32		6700	135	167	0.32	2.20
HDG047-40		6700	160	200	0.41	2.80
HDG047-50		6700	190	240	0.52	3.30
HDG047-65		7100	208	273	0.62	3.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

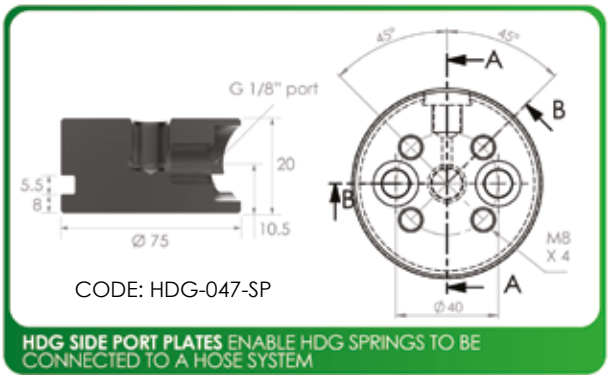
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

HOSE SYSTEMS AVAILABLE WITH SIDE PORT

SERVICE KIT HDG047

PED 2014/68/EU



CODE: HDG-047-SP

HDG SIDE PORT PLATES ENABLE HDG SPRINGS TO BE CONNECTED TO A HOSE SYSTEM

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

4 X M8 Tapped Holes

Square Front Flange 75 SFF

Front Flange 75 FF

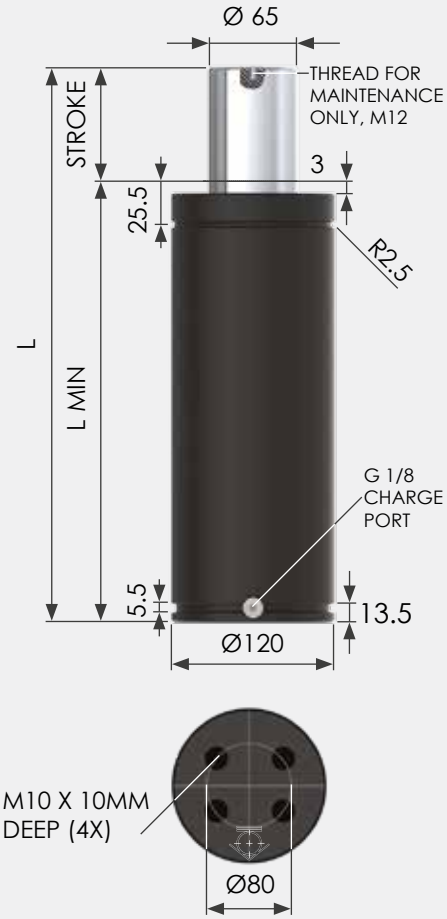
HDG-047-SP + Square Flange 75 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG047 x 10 + FF

5000 - 6600KG

ISNG5000-050 RSNG5000-050

EX6600-050 G-EX6600-050 MX6600-050



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG5000-025	5000	7100	165	190	0.32	11.40
ISNG5000-038		7500	178.1	216.2	0.42	11.70
ISNG5000-050		7700	190	240	0.51	12.20
ISNG5000-063		8000	203.5	267	0.60	12.70
ISNG5000-080		8100	220	300	0.73	13.60
ISNG5000-100		8200	240	340	0.89	14.60
ISNG5000-125		8200	265	390	1.09	15.75
ISNG5000-160		8300	300	460	1.36	17.80
ISNG5000-200		8400	340	540	1.68	20.00
ISNG5000-250		8400	390	640	2.07	22.30
ISNG5000-300		8400	440	740	2.46	25.00

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG5000

ISO PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-65

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

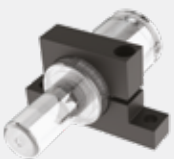
4 X M10 Tapped Holes

Square Front Flange 120 SFF

Front Flange 120 FF

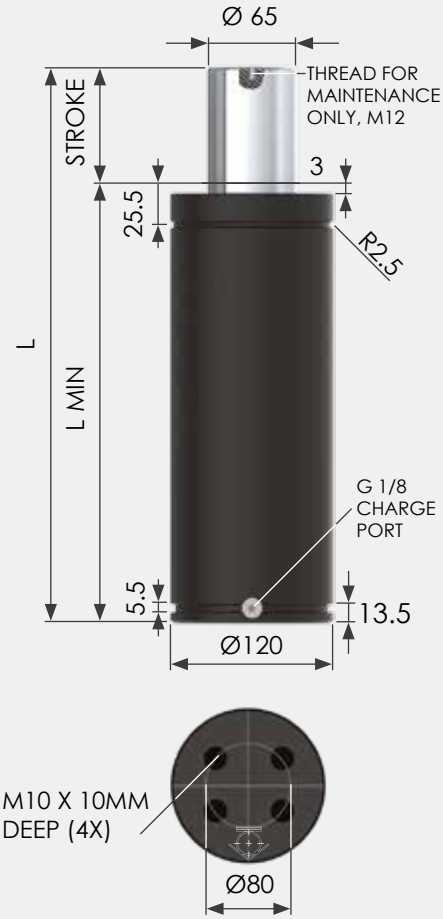
Square Flange 120 SF

Base Plate 120 BP



End Support 120 ES / 120 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG5000 x 025 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
RSNG5000-025	5000	7100	165	190	0.32	12.05
RSNG5000-038		7500	178.1	216.2	0.42	12.30
RSNG5000-050		7700	190	240	0.51	12.50
RSNG5000-063		8000	203.5	267	0.60	13.10
RSNG5000-080		8100	220	300	0.73	13.72
RSNG5000-100		8200	240	340	0.89	14.86
RSNG5000-125		8200	265	390	1.09	15.70
RSNG5000-160		8300	300	460	1.36	19.60
RSNG5000-200		8400	340	540	1.68	20.70
RSNG5000-250		8400	390	640	2.07	22.40
RSNG5000-300		8400	440	740	2.46	24.66

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

The RSNG must be mounted piston side up.

PED 2014/68/EU

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 50 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT RSNG5000

SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-65

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

Must be mounted rod side up.

Must be mounted rod side up

4 X M10 Tapped Holes

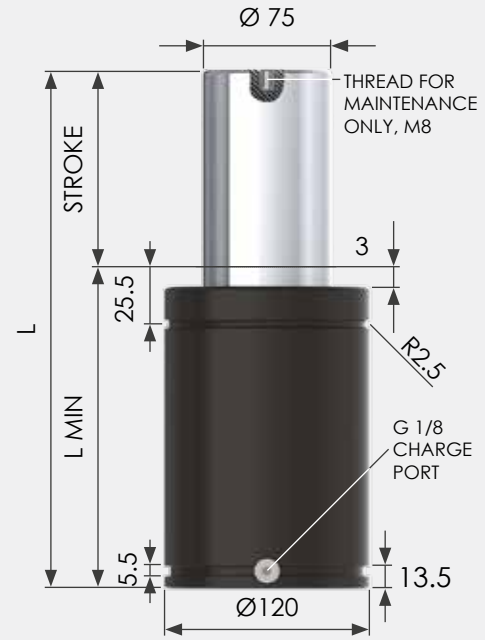
Square Front Flange 120 SFF

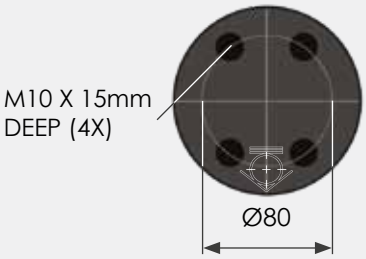
Front Flange 120 FF

Square Flange 120 SF

Base Plate 120 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: RSNG5000 x 025 + FF





MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX6600-016	6630	8900	84	100	0.32	5.56
EX6600-019		9100	87	106	0.35	5.90
EX6600-025		9390	93	118	0.42	6.30
EX6600-032		9610	100	132	0.49	6.33
EX6600-038		9820	106	144	0.56	6.48
EX6600-050		10060	118	168	0.69	6.97
EX6600-063		10240	131	194	0.83	7.53
EX6600-075		10340	143	218	0.90	8.80
EX6600-080		10410	148	228	1.01	9.25
EX6600-100		10540	168	268	1.23	9.89
EX6600-125		10650	193	318	1.50	10.30

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

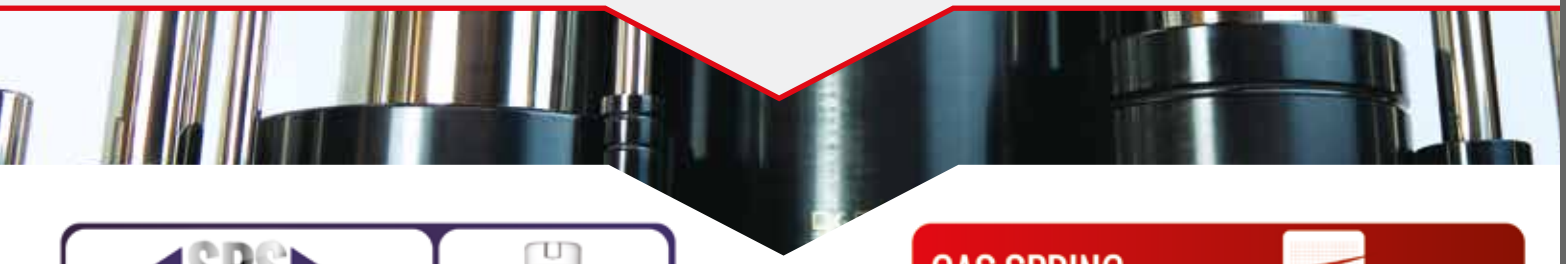
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX6600

ISO

PED 2014/68/EU



SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-75

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

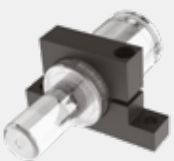
4 X M10 Tapped Holes

Square Front Flange 120 SFF

Front Flange 120 FF

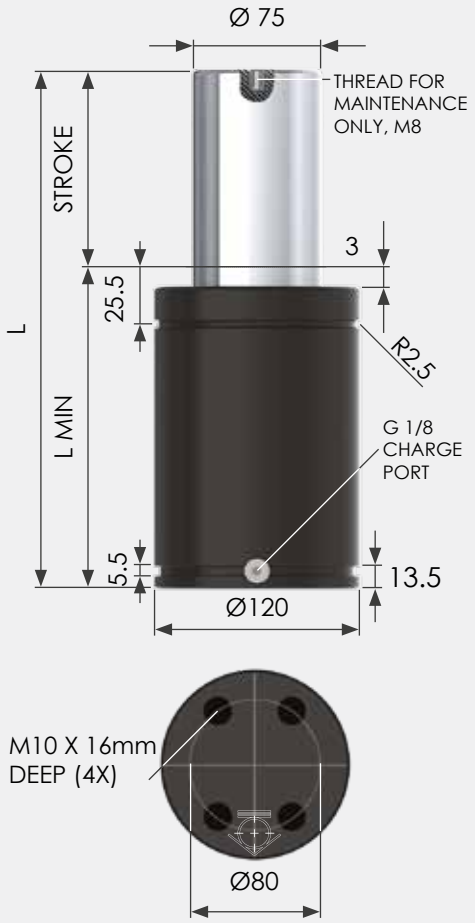
Square Flange 120 SF

Base Plate 120 BP



End Support 120 ES / 120 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX6600 x 016 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
G-EX6600-016	6630	8900	88	104	0.32	5.00
G-EX6600-019		9100	91	110	0.35	5.11
G-EX6600-025		9390	97	122	0.42	5.34
G-EX6600-032		9610	104	136	0.49	5.61
G-EX6600-038		9820	110	148	0.56	5.84
G-EX6600-050		10060	122	172	0.69	6.31
G-EX6600-063		10240	135	198	0.83	6.81
G-EX6600-075		10340	147	222	0.90	7.27
G-EX6600-080		10410	152	232	1.01	7.46
G-EX6600-100		10540	172	272	1.23	8.23
G-EX6600-125		10650	197	322	1.50	9.19

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT G-EX6600

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-75

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

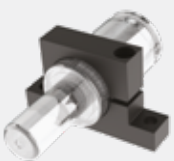
4 X M10 Tapped Holes

Square Front Flange 120 SFF

Front Flange 120 FF

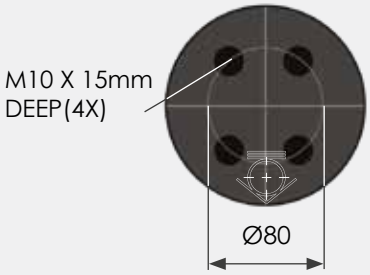
Square Flange 120 SF

Base Plate 120 BP



End Support 120 ES / 120 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: G-EX6600 x 016 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
MX6600-025	6630	7950	165	190	0.73	9.28
MX6600-038		8390	178	216	0.87	9.81
MX6600-050		8700	190	240	1.00	11.48
MX6600-063		8970	203	266	1.13	12.60
MX6600-075		9180	215	290	1.26	13.70
MX6600-080		9260	220	300	1.31	14.40
MX6600-100		9510	240	340	1.53	15.00
MX6600-125		9760	265	390	1.79	16.00
MX6600-150		9950	290	440	2.05	18.16
MX6600-160		10010	300	460	2.16	18.80
MX6600-175		10100	315	490	2.36	19.50
MX6600-200		10220	340	540	2.58	19.58
MX6600-250		10400	390	640	3.11	23.40
MX6600-300		10530	440	740	3.64	24.46

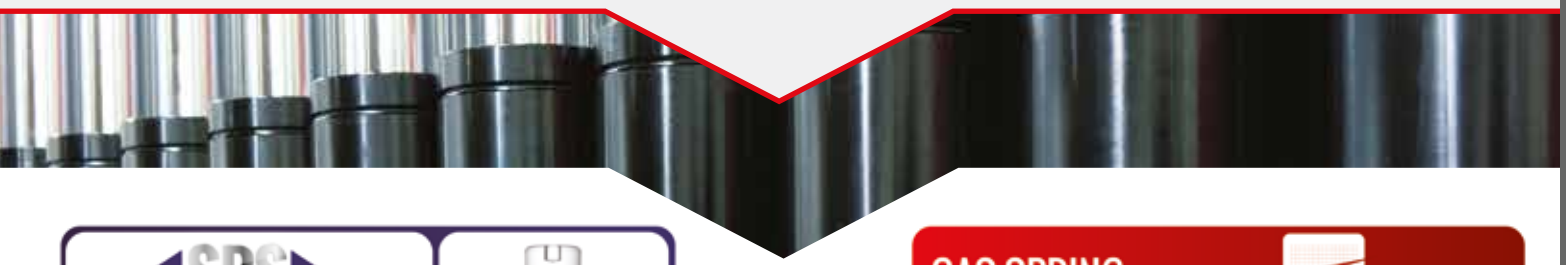
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT MX6600

ISO

PED 2014/68/EU



SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-75

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

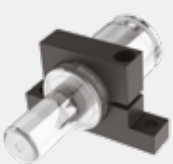
4 X M10 Tapped Holes

Square Front Flange 120 SFF

Front Flange 120 FF

Square Flange 120 SF

Base Plate 120 BP

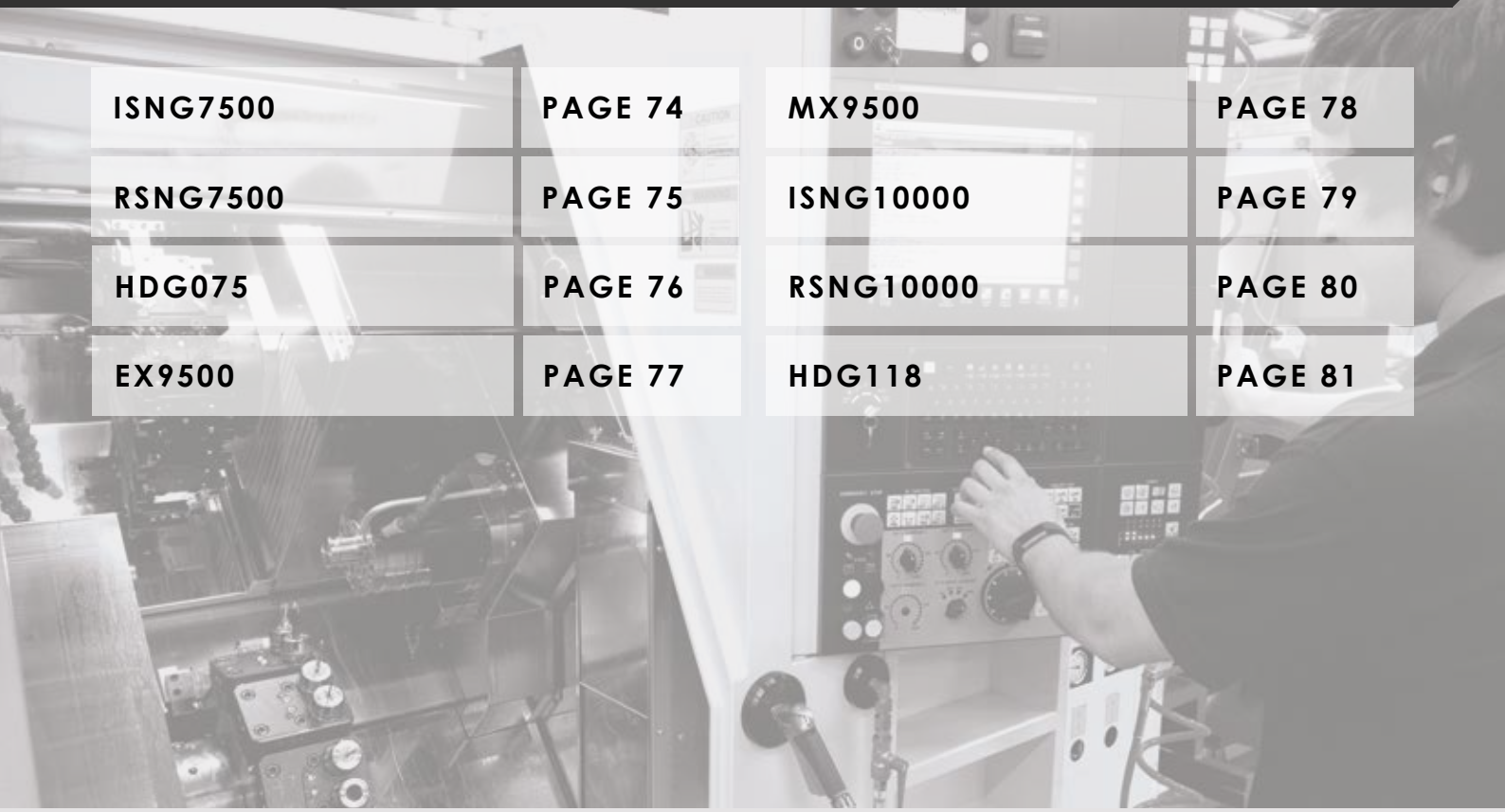


End Support 120 ES / 120 HM

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MX6600 x 025 + FF

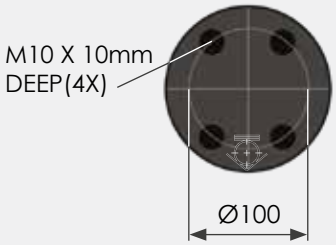
CONTENTS

7500 - 11800KG



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG7500-025	7500	10500	180	205	0.51	19.82
ISNG7500-038		11000	193.1	231.2	0.67	21.40
ISNG7500-050		11300	205	255	0.81	21.80
ISNG7500-063		11500	218.5	282	0.98	22.30
ISNG7500-080		11700	235	315	1.18	23.30
ISNG7500-100		11900	255	355	1.43	26.62
ISNG7500-125		12100	280	405	1.74	27.20
ISNG7500-160		12200	315	475	2.17	29.80
ISNG7500-200		12300	355	555	2.66	31.10
ISNG7500-250		12400	405	655	3.27	35.50
ISNG7500-300		12400	455	755	3.88	42.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

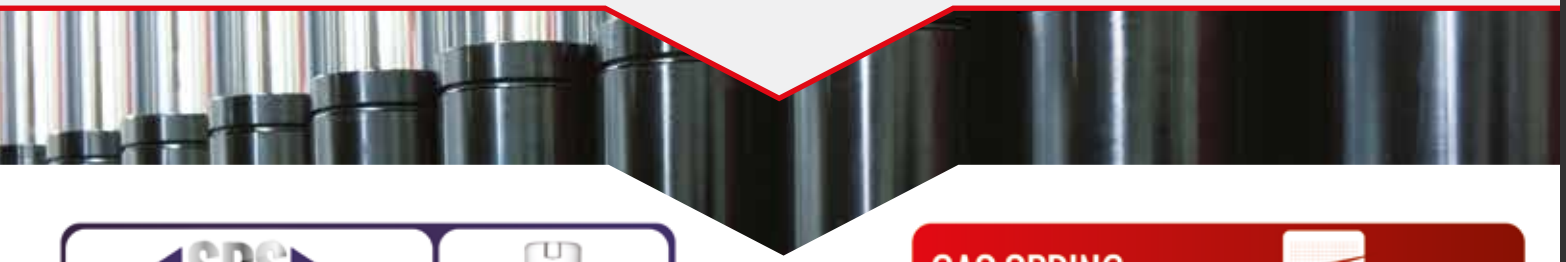


USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG7500

ISO PED 2014/68/EU



SRS SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-80

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

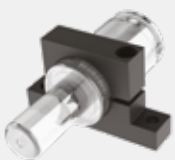
4 X M10 Tapped Holes

Square Front Flange 150 SFF

Front Flange 150 FF

Square Flange 150 SF

Base Plate 150 BP

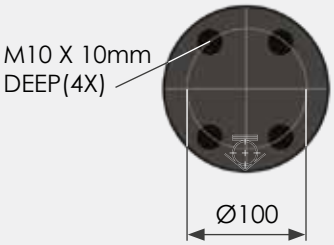


End Support 150 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG7500 x 025 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
RSNG7500-025	7500	10500	180	205	0.51	20.30
RSNG7500-038		11000	193.1	231.2	0.67	20.89
RSNG7500-050		11300	205	255	0.81	21.50
RSNG7500-063		11500	218.5	282	0.98	22.10
RSNG7500-080		11700	235	315	1.18	23.00
RSNG7500-100		11900	255	355	1.43	24.18
RSNG7500-125		12100	280	405	1.74	26.09
RSNG7500-160		12200	315	475	2.17	28.46
RSNG7500-200		12300	355	555	2.66	30.00
RSNG7500-250		12400	405	655	3.27	35.00
RSNG7500-300		12400	455	755	3.88	42.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



The RSNG must be mounted piston side up.

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 50 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT RSNG7500

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-80

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

Must be mounted rod side up.


Must be mounted rod side up


4 X M10 Tapped Holes

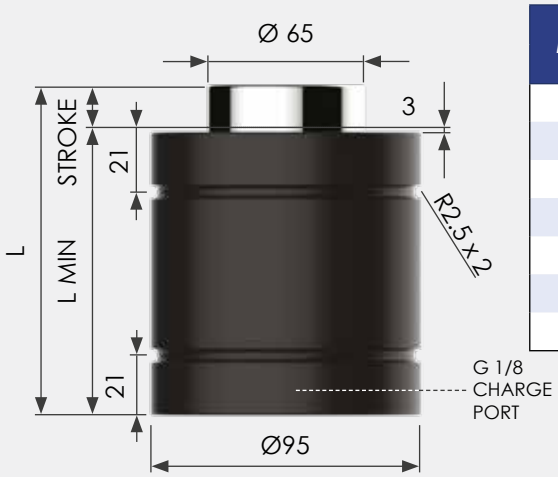

Square Front Flange 150 SFF


Front Flange 150 FF


Square Flange 150 SF

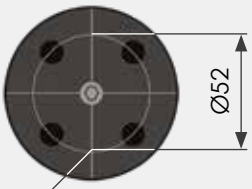

Base Plate 150 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: RSNG7500 x 025 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG075-10	7500	9850	80	90	0.18	2.80
HDG075-16		10000	100	116	0.30	3.30
HDG075-25		10400	120	145	0.41	3.70
HDG075-32		10200	150	182	0.57	4.40
HDG075-40		10400	170	210	0.68	4.80
HDG075-50		10300	205	255	0.87	5.60
HDG075-65		11100	214	279	1.00	6.60

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



M8 X 13.5mm DEEP (4X)

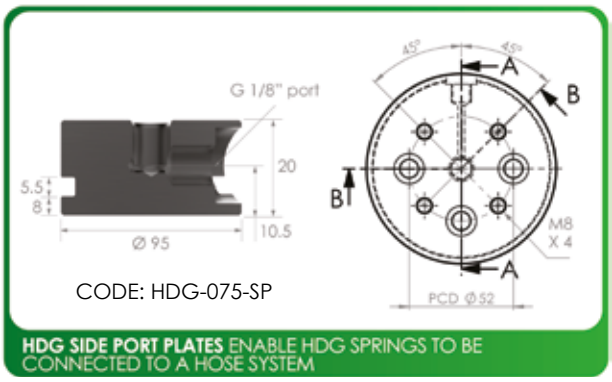
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

HOSE SYSTEMS AVAILABLE WITH SIDE PORT

SERVICE KIT HDG075

PED 2014/68/EU



CODE: HDG-075-SP

HDG SIDE PORT PLATES ENABLE HDG SPRINGS TO BE CONNECTED TO A HOSE SYSTEM

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

4 X M8 Tapped Holes

Square Front Flange 95 SFF

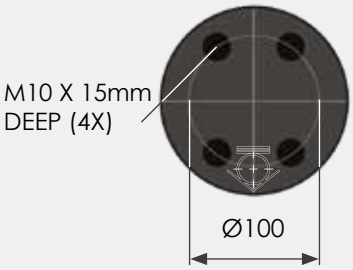
Front Flange 95 FF

HDG-075-SP + Square Flange 95 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG075 x 10 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
EX9500-019	9500	13500	97	116	0.49	9.90
EX9500-025		13900	103	128	0.58	10.27
EX9500-032		14200	110	142	0.70	10.70
EX9500-038		14300	116	154	0.80	11.10
EX9500-050		14600	128	178	0.99	11.84
EX9500-063		14800	141	204	1.20	12.76
EX9500-075		14900	153	228	1.39	13.40
EX9500-080		15000	158	238	1.47	13.93
EX9500-100		15100	178	278	1.79	15.20
EX9500-125		15200	203	328	2.20	17.00

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT EX9500

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-90

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

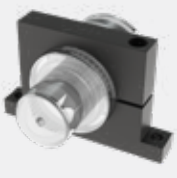

4 X M10 Tapped Holes


Square Front Flange 150 SFF

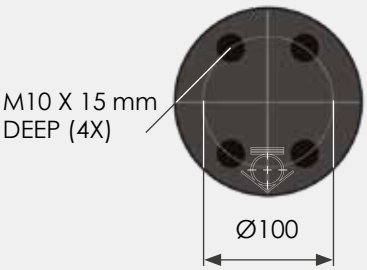

Front Flange 150 FF


Square Flange 150 SF


Base Plate 150 BP


End Support 150 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: EX9500 x 019 + FF



MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
MX9500-025	9500	11320	180	205	1.09	16.79
MX9500-038		11900	193	231	1.30	17.70
MX9500-050		12330	205	255	1.49	18.48
MX9500-063		12700	218	281	1.69	19.32
MX9500-075		12970	230	305	1.88	24.00
MX9500-080		13080	235	315	1.96	24.40
MX9500-100		13430	255	355	2.28	26.30
MX9500-125		13760	280	405	2.67	26.62
MX9500-150		14020	305	455	3.07	30.00
MX9500-160		14100	315	475	3.23	31.00
MX9500-175		14220	330	505	3.47	31.00
MX9500-200		14380	355	555	3.86	33.00
MX9500-250		14630	405	655	4.65	39.00
MX9500-300		14820	455	755	5.44	45.00

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT MX9500

ISO

PED 2014/68/EU

SRS
SECONDARY ROD SCRAPER

PREVENT **DUST, DIRT AND OIL** FROM REDUCING THE LIFE OF YOUR GAS SPRINGS

CODE: SRS-90

GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

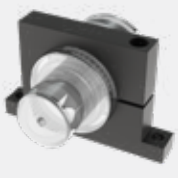
4 X M10 Tapped Holes

Square Front Flange 150 SFF

Front Flange 150 FF

Square Flange 150 SF

Base Plate 150 BP

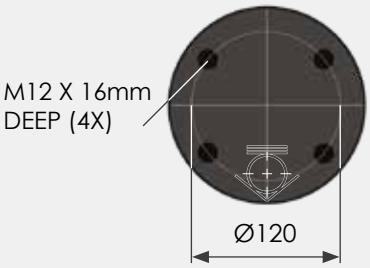


End Support 150 ES

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MX9500 x 25 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
ISNG10000-025	10600	13800	185	210	0.87	35.90
ISNG10000-038		14300	198.1	236.2	1.13	37.60
ISNG10000-050		14700	210	260	1.37	38.00
ISNG10000-063		15000	223.5	287	1.64	41.00
ISNG10000-080		15200	240	320	1.98	42.00
ISNG10000-100		15600	260	360	2.38	44.00
ISNG10000-125		15700	285	410	2.88	46.50
ISNG10000-160		15800	320	480	3.59	51.00
ISNG10000-200		16000	360	560	4.39	60.00
ISNG10000-250		16000	410	660	5.40	66.50
ISNG10000-300		16000	460	760	6.40	68.00

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



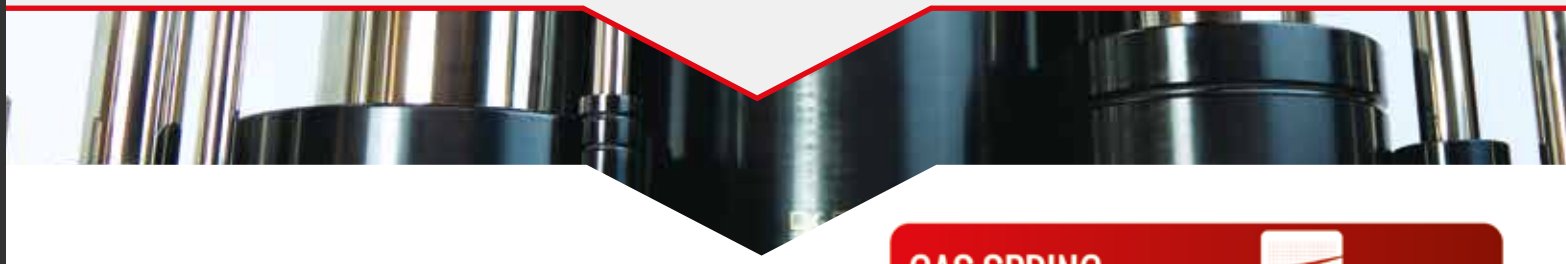
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT ISNG10000

ISO

PED 2014/68/EU



GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88


4 X M12 Tapped Holes


Square Front Flange 195 SFF


Front Flange 195 FF

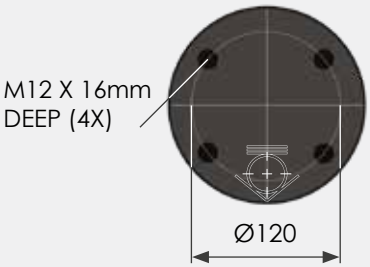

Square Flange 195 SF


Base Plate 195 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: ISNG10000 x 025 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
RSNG10000-025	10600	13800	218	243	0.87	35.90
RSNG10000-038		14300	231	269	1.13	37.60
RSNG10000-050		14700	243	293	1.37	38.00
RSNG10000-063		15000	256.5	320	1.64	41.00
RSNG10000-080		15200	273	353	1.98	42.00
RSNG10000-100		15600	293	393	2.38	44.00
RSNG10000-125		15700	318	443	2.88	46.50
RSNG10000-160		15800	353	513	3.59	51.00
RSNG10000-200		16000	393	593	4.39	60.00
RSNG10000-250		16000	443	693	5.40	66.50
RSNG10000-300		16000	493	793	6.40	68.00

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



The RSNG must be mounted piston side up.

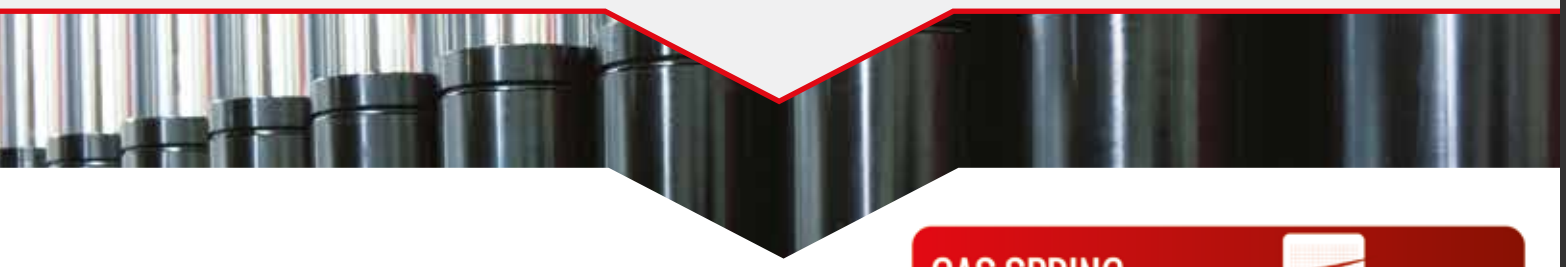
USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 20 BAR | MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT RSNG10000

ISO

PED 2014/68/EU



GAS SPRING FORCE CALCULATOR
www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

Must be mounted rod side up.


Must be mounted rod side up


4 X M12 Tapped Holes


Square Front Flange 195 SFF


Front Flange 195 FF

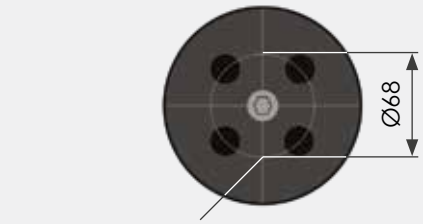

Square Flange 195 SF


Base Plate 195 BP

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: RSNG10000 x 025 + FF

MODEL/STROKE	SPRING FORCE (daN)		L MIN	L	GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM				
HDG118-10	11800	15000	90	100	0.33	5.52
HDG118-16		15300	110	126	0.50	5.92
HDG118-25		16000	130	155	0.68	6.17
HDG118-32		16500	155	187	0.88	6.90
HDG118-40		16000	180	220	1.00	7.65
HDG118-50		16100	210	260	1.35	8.55
HDG118-65		16300	255	320	1.90	9.56

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



M10 X 11mm DEEP (4X)

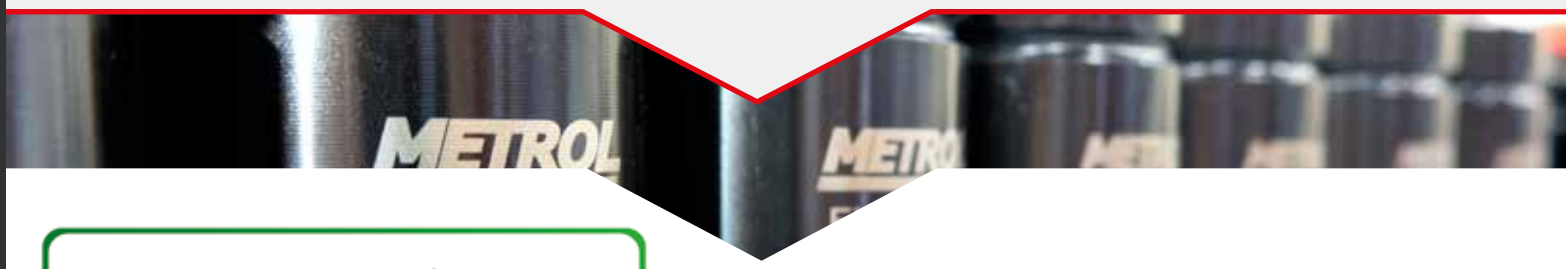
USE ONLY NITROGEN

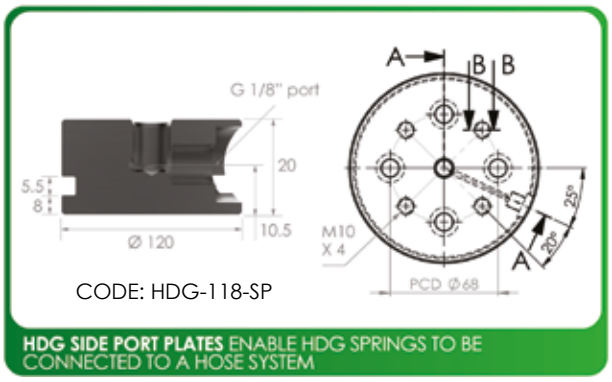
MAX. PRESSURE: 150 BAR | MIN. PRESSURE: 25 BAR | MAX. PISTON VELOCITY: 0.8M/SEC

HOSE SYSTEMS AVAILABLE WITH SIDE PORT

SERVICE KIT HDG118

PED 2014/68/EU





CODE: HDG-118-SP

HDG SIDE PORT PLATES ENABLE HDG SPRINGS TO BE CONNECTED TO A HOSE SYSTEM

GAS SPRING FORCE CALCULATOR

www.metrol.com/gas-spring-force-calculator

MOUNTING EXAMPLES

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88

4 X M10 Tapped Holes

Square Front Flange 120 SFF

Front Flange 120 FF

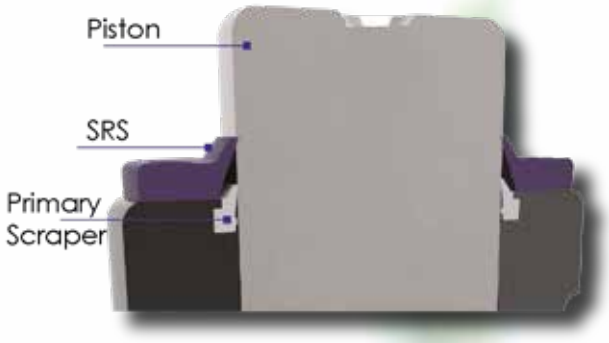
HDG-118-SP + Square Flange 120 SF

Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: HDG118 x 10 + FF

GAS SPRING ACCESSORIES

ADDITIONAL BENEFITS

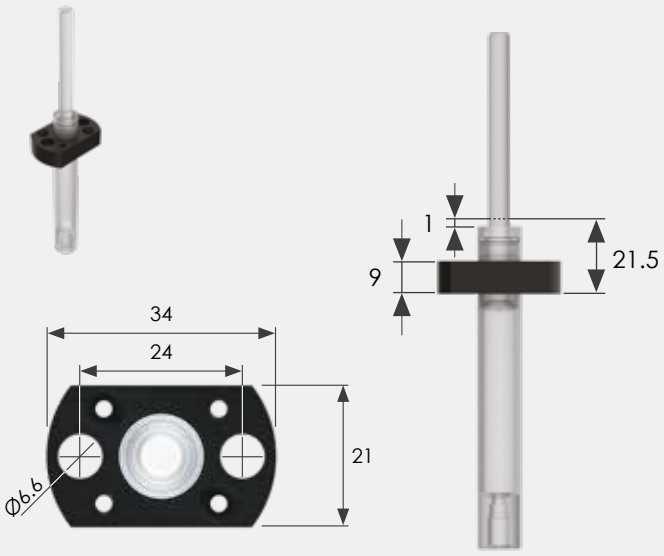
- Die modification **not required**
- **Minimal reduction** in stroke length when fitted
- **Available** with Front Flange assemblies
- **Can be** retrofitted to most Metrol gas springs
- **Easily** removed for gas spring overhaul and maintenance



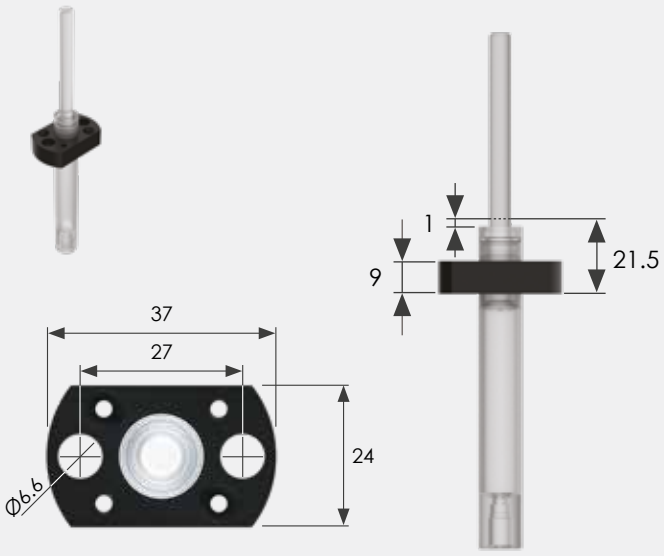
PART NO.	ROD DIAMETER	SRS HEIGHT	MINI SPRINGS	EX	G-EX	ISNG	MX	RSNG	DSNG
SRS-8	8mm	3mm	NG0	-	-	-	-	-	-
SRS-11	11mm	3mm	-	EX0170	-	-	-	-	-
SRS-12	12mm	3mm	NG1	-	-	-	-	-	-
SRS-15	15mm	3mm	-	EX0320	-	-	-	-	-
SRS-16	16mm	6mm	-	EX0360	G-EX0360	-	-	-	-
SRS-20	20mm	6mm	-	EX0500	G-EX0500	-	-	-	-
SRS-20-A	20mm	6mm	-	-	-	ISNG0500	-	-	-
SRS-25	25mm	6mm	-	EX0750	G-EX0750	-	-	-	-
SRS-25-A	25mm	6mm	-	-	-	ISNG0750	-	RSNG0750	-
SRS-28	28mm	6mm	-	EX1000	G-EX1000	-	MX1000	-	-
SRS-36	36mm	6.5mm	-	EX1500	G-EX1500	-	-	-	-
SRS-36-A	36mm	6.5mm	-	-	-	ISNG1500	-	RSNG1500	DSNG1500
SRS-45	45mm	7mm	-	EX2400	G-EX2400	-	MX2400	-	-
SRS-50	50mm	7mm	-	-	-	ISNG3000	-	RSNG3000	DSNG3000
SRS-60	60mm	7mm	-	EX4200	G-EX4200	-	MX4200	-	-
SRS-65	65mm	7mm	-	-	-	ISNG5000	-	RSNG5000	DSNG5000
SRS-75	75mm	7mm	-	EX6600	G-EX6600	-	MX6600	-	-
SRS-80	80mm	7mm	-	-	-	ISNG7500	-	RSNG7500	DSNG7500
SRS-90	90mm	9mm	-	EX9500	-	-	MX9500	-	-

ENHANCED PROTECTION
FOR EXTREME CONDITIONS

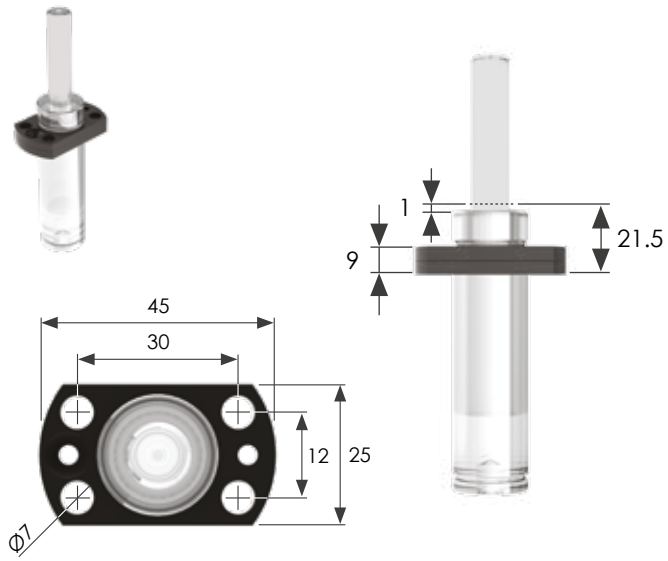
FRONT FLANGE 12FF



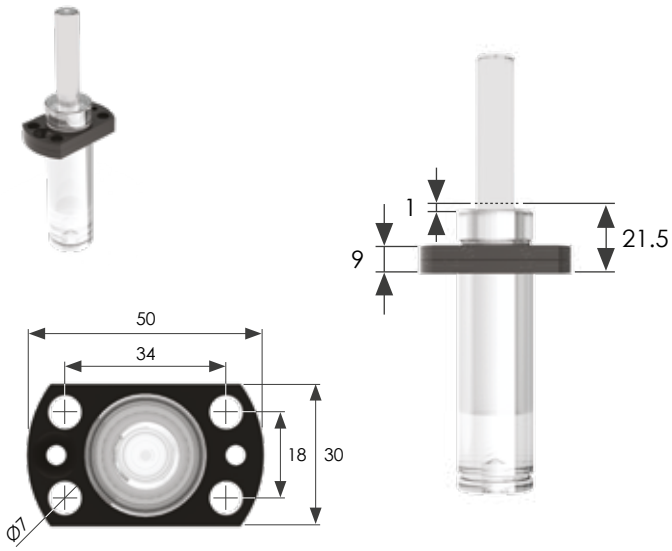
FRONT FLANGE 15FF



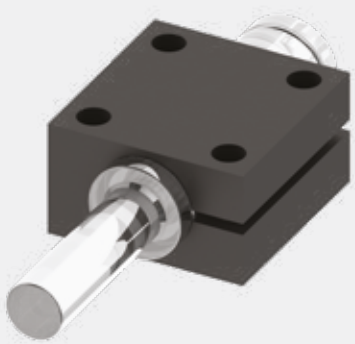
FRONT FLANGE 19FF

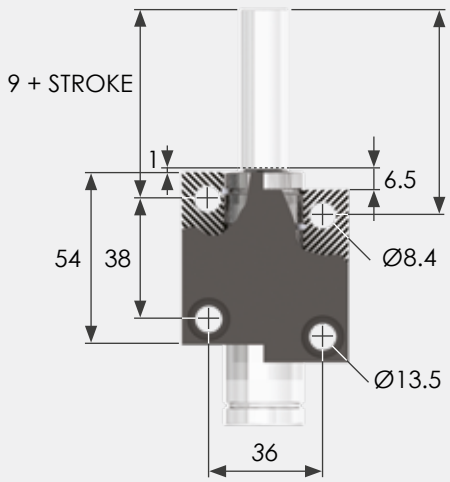


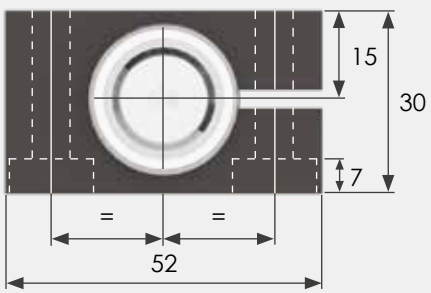
FRONT FLANGE 25FF



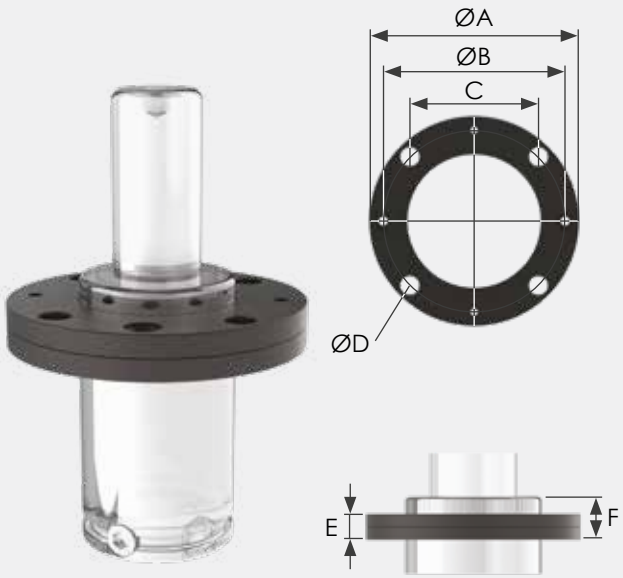
END SUPPORT-25ES





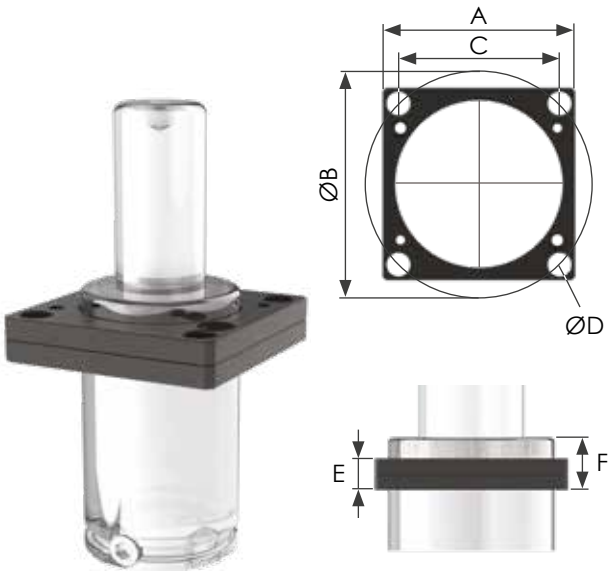


FRONT FLANGE (FF)



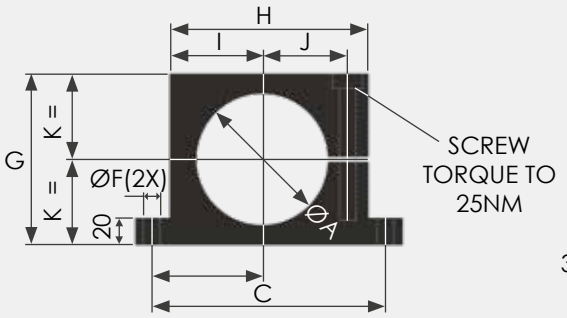
FF-TYPE	ØA	ØB	C	ØD	E	F
19 FF	For Full Dimensions, See Page 84					
25 FF	For Full Dimensions, See Page 84					
32 FF	60	49.5	35	7	9	15
38 FF	68	56.5	40	7	9	15
45 FF	86	70.7	50	9	13	21
50 FF	95	80	56.5	9	13	21
63 FF	122	104	73.5	11	16	26
75 FF	122	104	73.5	11	16	26
95 FF	150	130	92	13.5	18	30
120 FF	175	155	109.5	13.5	21	33
150 FF	220	195	138	17.5	27	38
195 FF	290	240.4	170	17.5	27	44

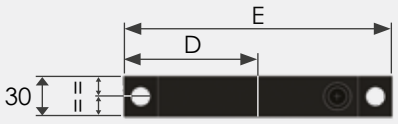
SQUARE FRONT FLANGE (SFF)



SFF-TYPE	ØA	ØB	C	ØD	E	F
32 SFF	45	49.5	35	7	9	15
38 SFF	52	56.5	40	7	9	15
45 SFF	64	70.7	50	9	13	21
50 SFF	70	80	56.5	9	13	21
63 SFF-A	80	90.5	64	11	16	24
63 SFF	90	104	73.5	11	16	24
75 SFF	90	104	73.5	11	16	26
95 SFF	110	130	92	13.5	18	30
120 SFF	130	155	109.5	13.5	21	33
150 SFF	162	195	138	17.5	27	38
195 SFF	210	240.4	170	17.5	27	43

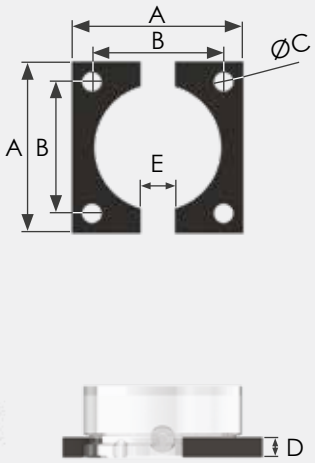
END SUPPORT (ES)





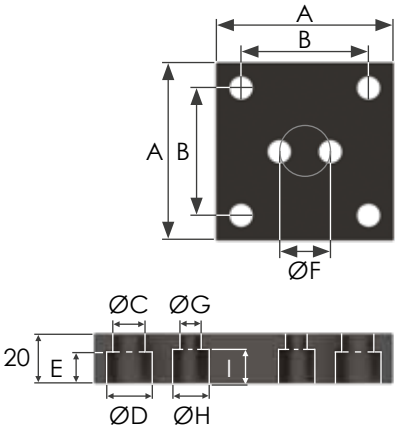
ES-TYPE	ØA	C	D	E	ØF	G	H	I	ØSCREW	J	K
25 ES	24.9	36	26	52	8.4	30	52	26	-	18	14.5
38 ES	38	77	43	95	9	55	59	25	M6	25	27.5
45 ES	45	82	46	100	9	60	66	29	M8	29	30
50 ES	50	110	60	130	9	80	90	40	M8	37.5	40
75 ES	75	137	75	160	11	105	115	52.5	M10	50	52.5
95 ES	95	170	92.5	195	13	125	145	67.5	M12	62.5	62.5
120 ES	120	195	105	220	13.5	148	165	77.5	M12	76.2	74
150 ES	150	230	125	260	13.5	200	200	95	M14	90	100

SQUARE FLANGE (SF)



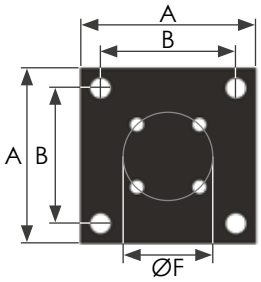
SF-TYPE	A	B	ØC	D	E
32 SF	50	35	7	7	12
38 SF	55	40	7	7	12
45 SF	70	50	9	7	20
50 SF	75	56.5	9	12	24
63 SF	100	73.5	11	12	24
75 SF	100	73.5	11	12	24
95 SF	120	92	13.5	12	24
120 SF	140	109.5	13.5	12	24
150 SF	190	138	17.5	12	24
195 SF	210	170	17.5	13	24

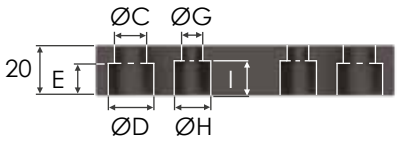
BASE PLATE (BP)



BASE PLATES FOR BASES WITH 2 CENTRAL FIXING HOLES

TYPE	A	B	ØC	ØD	E	ØF	ØG	ØH	I
45 BP	70	50	9	15	12	20	9	15	12
50 BP	75	56.5	9	15	12	20	9	15	14
63 BP	100	73.5	11	18	12	20	9	15	14

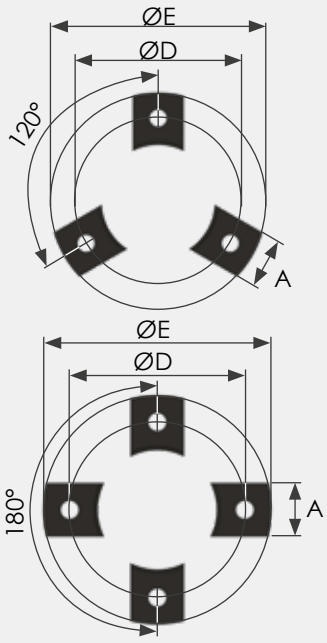




BASE PLATES FOR BASES WITH 4 CENTRAL FIXING HOLES

TYPE	A	B	ØC	ØD	E	ØF	ØG	ØH	I
75 BP	100	73.5	11	18	12	40	9	15	14
95 BP	120	92	13.5	19	13	60	9	15	14
120 BP	140	109.5	13.5	20	15	80	11	18	15
150 BP	190	138	17.5	26	17	100	11	18	15
195 BP	209	170	17.5	26	17	120	13.5	20	13

FOOT (F)



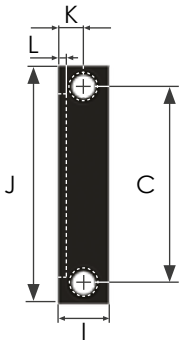
F-TYPE	A	B	C	D	E
45 F	25	7	9	70.7	95.8
50 F	30	12	9	80	110
75 F	30	12	11	104	134
95 F	40	12	13	130	170
120 F	50	12	13	155	195
150 F	60	12	17	184	220

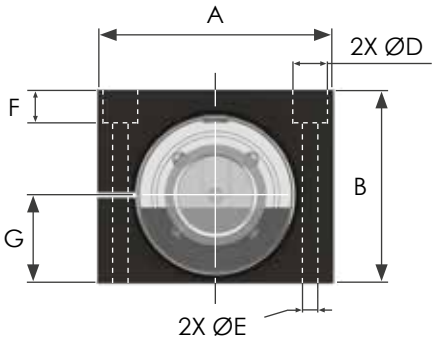
The horizontal mount (HM/HMS) conforms to the Ford WDX35-62 standard and is available as a kit (Horizontal mount and support) or as a single part (Horizontal mount).

HORIZONTAL MOUNT AND SUPPORT KIT (HMS)

HORIZONTAL MOUNT (HM)

MOUNT



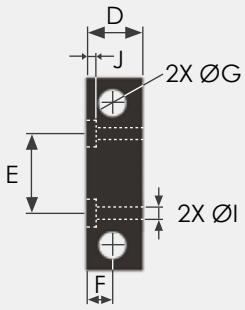


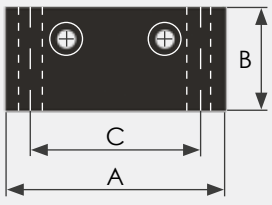
ORDERING CODE EXAMPLE

38HM

RANGE TYPE	A	B	C	ØD	ØE	F	G	I	J	K	L
38HM	74	54	54	15	9	16	23.9	20	54	10	3
50HM	90	70	68	18	11	25	30	30	68	15	4.5
75HM	125	94	100	20	13.5	19	42	30	100	15	6
95HM	140	115	115	20	13.5	40	52.5	30	115	15	6

SUPPORT





ORDERING CODE EXAMPLE

38HMS

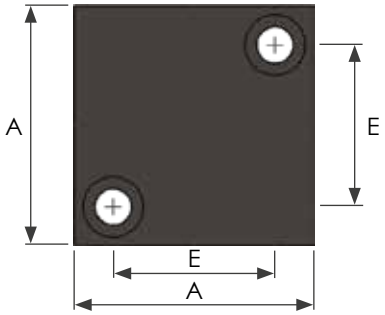
RANGE TYPE	A	B	C	D	E	F	ØG	ØI	J
38HMS	60	38	40	28	18	16	9	6	4
50HMS	65	45	44	28	20	15	11	8	5
75HMS	80	45	57	28	21.3	16	13.5	8	5
95HMS	95	45	70	28	42.4	13	13.5	8	5

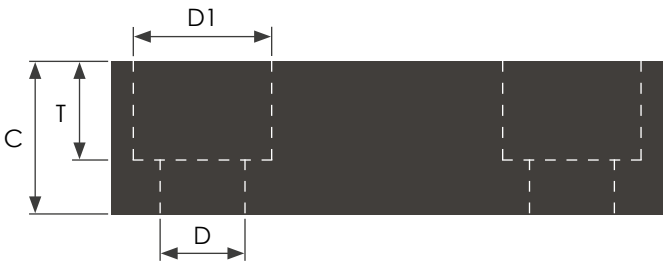
THRUST PLATES FOR GAS SPRINGS

Thrust plates protect against damage to the piston top and the tool contact area. Damage can introduce side loading, reducing the life of the gas spring.

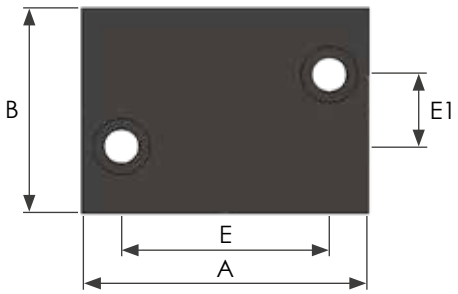
Material:
Tool Steel DIN 90MnCrV8 (1.2842),
hardened 55 - 60 HRc

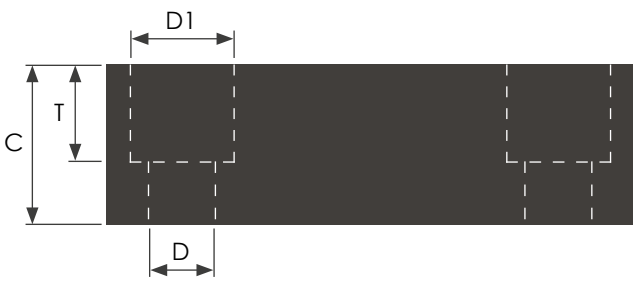
ORDER NO.	MAX. PISTON ROD DIAMETER	A	C	D	D1	E	T
TP15	15	40	15	9	15	21	10
TP15-2	15	40	15	7	11	24	7
TP25	25	56	20	11	18	32	13
TP50	50	71	20	11	18	48	13
TP50-2	50	70	15	9	15	50	9
TP65	65	90	12	9	15	64	9
TP80	80	90	20	11	18	67	13
TP80-2	80	90	15	9	15	70	9
TP95	95	140	20	11	18	110	13





ORDER NO.	MAX. PISTON ROD DIAMETER	A	B	C	D	D1	E	E1	T
TPR15	15	50	25	12	7	11	32	8	7
TPR20	20	55	30	12	7	11	40	14	7
TPR25	25	70	35	15	9	15	48	14	9
TPR36	36	75	50	15	9	15	56	30	9
TPR50	50	85	60	15	9	15	66	40	9
TPR65	65	100	80	20	11	18	72	56	11
TPR80	80	110	100	20	11	18	85	75	11

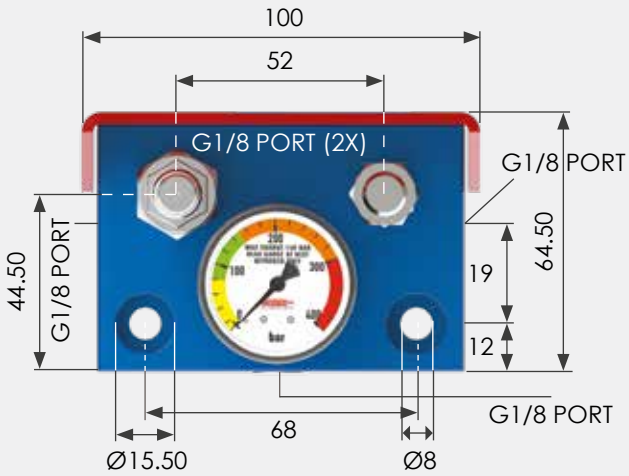


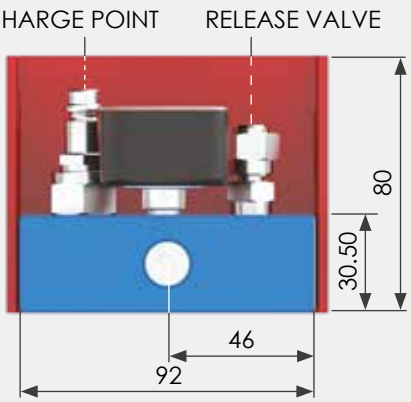


HOSE SYSTEMS

MET 111 - MINI CONTROL PANEL

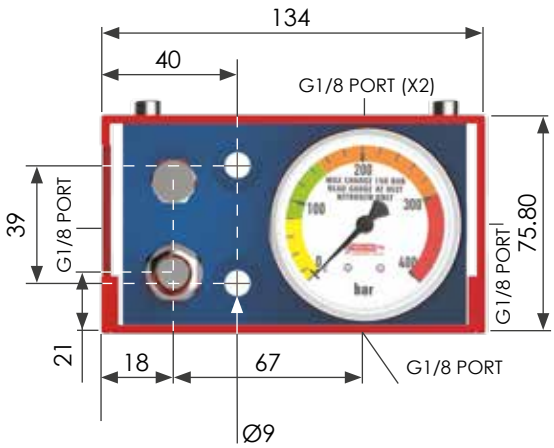
- MET 111-RP - WITH RUPTURE PLUG

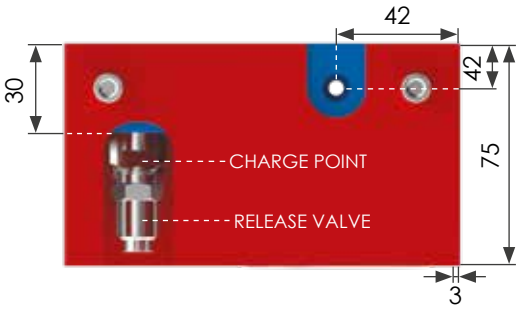




MET 222 - STANDARD CONTROL PANEL

- MET 222-RP - WITH RUPTURE PLUG





RUPTURE PLUG (RP)

The Rupture Plug (RP) is compatible with MET111, MET222 and the full range of MCP Control Panels. It can be used in any of the G1/8 ports located on the control panels.

ORDERING EXAMPLES (WITH RUPTURE PLUG)

- MET111-RP
- MET222-RP
- MCP-2-RP

INDIVIDUAL ORDERING CODE

MET 8103

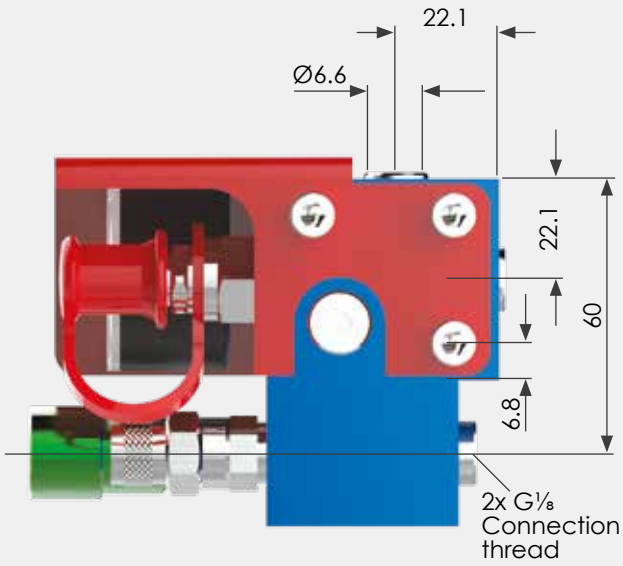
RUPTURE PLUG (RP)

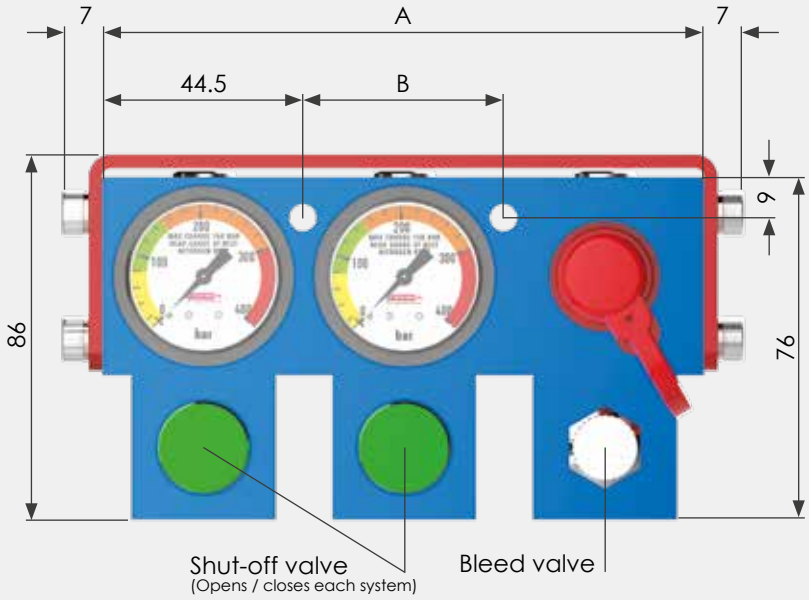
MCP - MULTIPLE CONTROL PANEL

The MCP allows the connection of multiple systems to one control panel. Each system has a pressure gauge, which allows constant monitoring. By opening the shut-off valve, the operator has access to charge and degas the system as required.

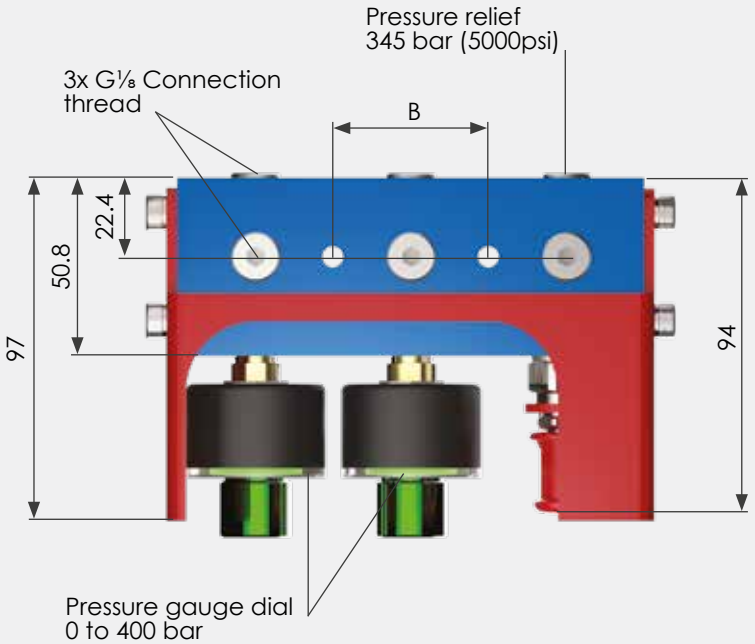
Each system has three connection points using the G⅛ ports on top of the panel, and two with rear entry. The MCP is compatible with all types of hose systems.

Where multiple systems are used on a tool, the MCP design provides a compact, cost effective solution.





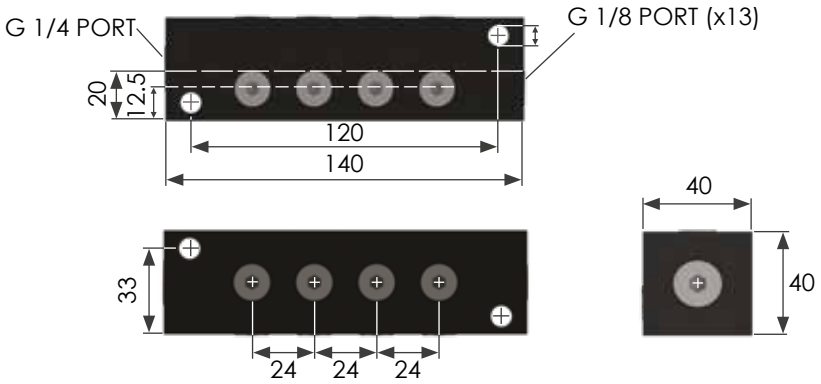
PART NO.	NO. OF SYSTEMS	A	B
MCP-2	2	133.5	44.5
MCP-3	3	178	89
MCP-4	4	222.5	133.5
MCP-5	5	267	178
MCP-6	6	311.5	222.5
MCP-8	8	400.5	311.5
MCP-10	10	489.5	400.5



ORDERING EXAMPLE

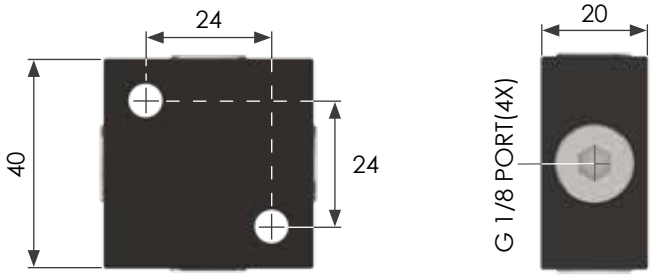
- MCP-2-RP

MET 1060 - 14 WAY ADAPTOR

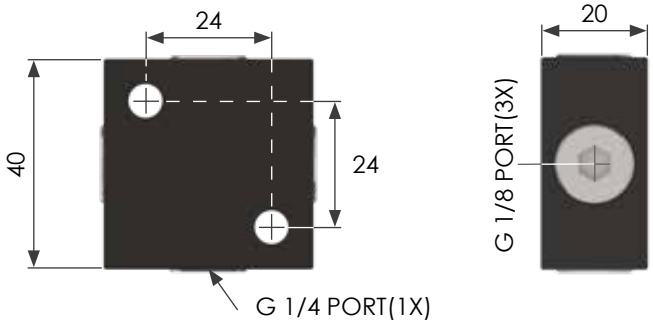


MET 1061 & 1061-A
4 WAY ADAPTOR

MET 1061



MET 1061-A



MET8400 DIGITAL PRESSURE SWITCH MONITOR

The digital pressure monitor switch is ideal for piped gas spring systems where the pressure is critical, if the pressure drops below a certain level the tool produces a bad part.

The pressure monitor can be set to the critical pressure level and should the pressure in the system fall below the set level then the press unit will alarm.

- **Digital display.**
- **NO or NC (selectable).**
- **Supply Voltage 15-35V dc.**
- **2 switching outputs.**
- **Connection G1/4.**

MET8400 pressure switch connected to MET222 via MET1061-A 4 way adaptor control panel.

Features:

- Material: Black polyamide construction with synthetic fibre braid.
- Minimum bend radius: 20mm
- Max working pressure: 500bar

Advantages:

- O-ring Sealed and vibration resistant hose fitting.
- Finger tighten hoses
- A complete hose can be removed and system remains charged
- Large range of adaptors
- Direct connection of G1/8 port to hose

No direct hose to spring connection available for M6 port, the valve must be removed prior to fitting the hose system.

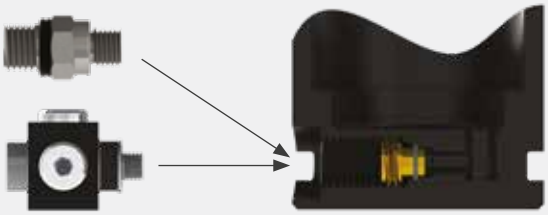
M6 PORT

MET1054-1057 – SPRING TO T-ADAPTOR

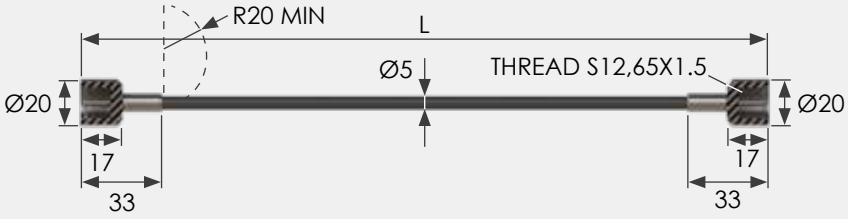
G 1/8 PORT

MET1040 – SPRING TO HOSE ADAPTOR

MET1050 – 1053 – SPRING TO T-ADAPTOR

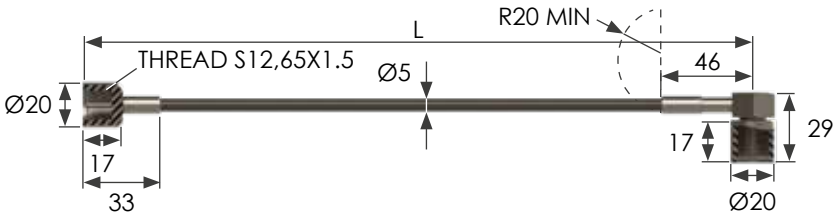


KEVLAR BRAIDED HOSE WITH STRAIGHT FITTINGS



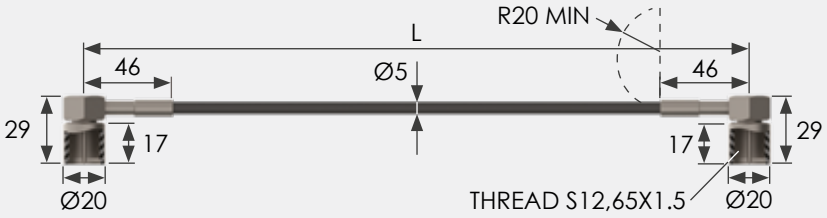
ORDER NO.	LENGTH (L)
MET 1000	200
MET 1001	300
MET 1002	400
MET 1003	500
MET 1004	600
MET 1005	800
MET 1006	1000
MET 1007	1200
MET 1008	1500
MET 1009	2000
MET 1010	2500
MET 1011	3000
MET 1012	CUSTOMER SPECIFICATION
MINIMUM LENGTH 100MM	

KEVLAR BRAIDED HOSE WITH STRAIGHT AND COMPACT 90 FITTINGS



ORDER NO.	LENGTH (L)
MET 1013	200
MET 1014	300
MET 1015	400
MET 1016	500
MET 1017	600
MET 1018	800
MET 1019	1000
MET 1020	1200
MET 1021	1500
MET 1022	2000
MET 1023	2500
MET 1024	3000
MET 1025	CUSTOMER SPECIFICATION
MINIMUM LENGTH 100MM	

KEVLAR BRAIDED HOSE WITH COMPACT 90 FITTINGS

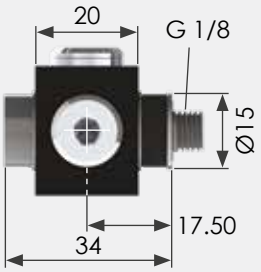


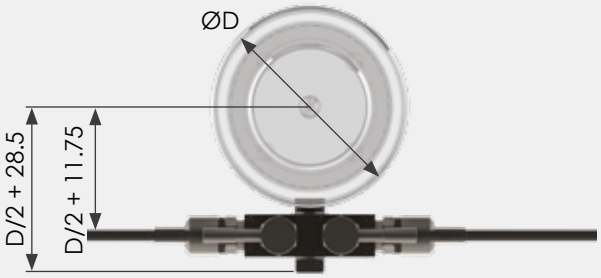
ORDER NO.	LENGTH (L)
MET 1026	200
MET 1027	300
MET 1028	400
MET 1029	500
MET 1030	600
MET 1031	800
MET 1032	1000
MET 1033	1200
MET 1034	1500
MET 1035	2000
MET 1036	2500
MET 1037	3000
MET 1038	CUSTOMER SPECIFICATION
MINIMUM LENGTH 100MM	

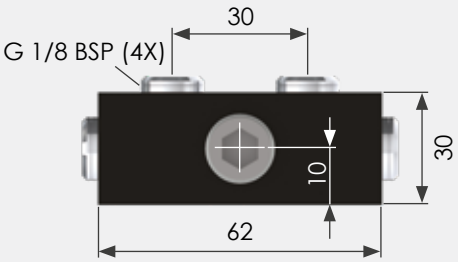
Please see page 116 for CNOMO hose components MET1080 (Straight end) MET1081 (90 degree end) and MET1082 (Micro bore hose).

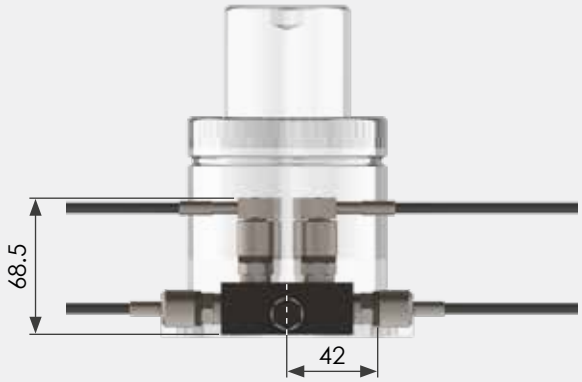
MET 1050

4 way multiple adaptor



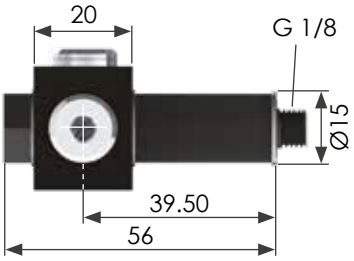


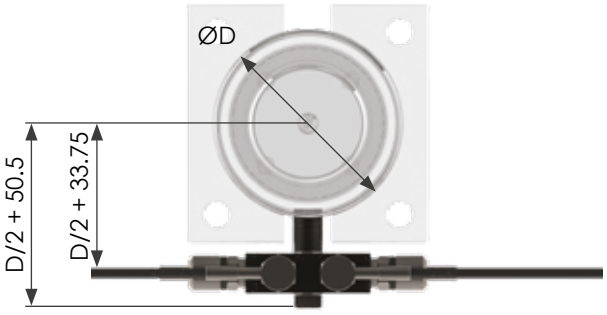


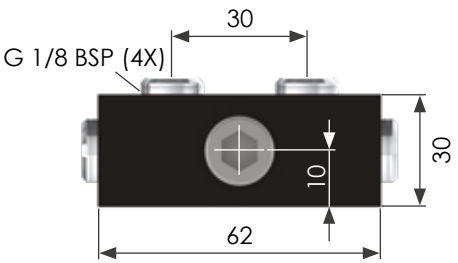


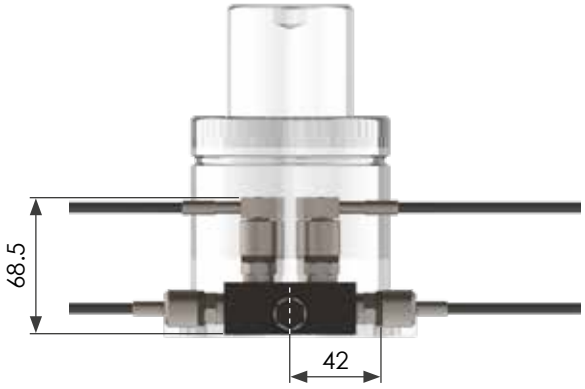
MET 1051

Multiple adaptor when springs are clamped using SF flange

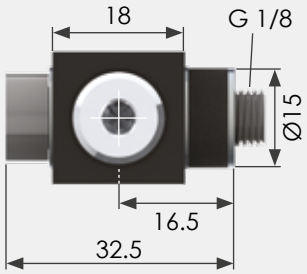


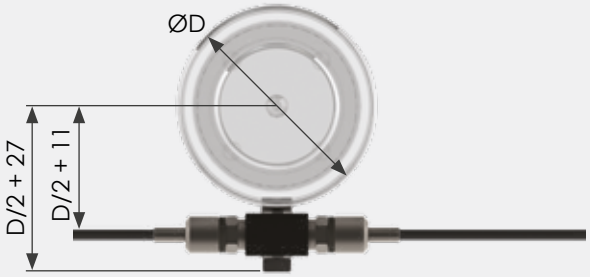


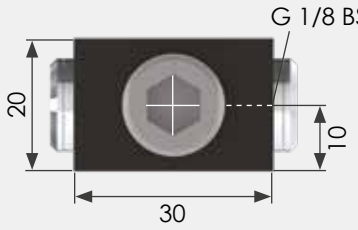




MET 1052

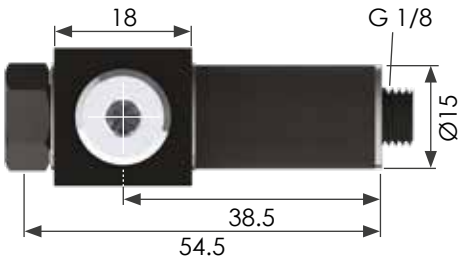


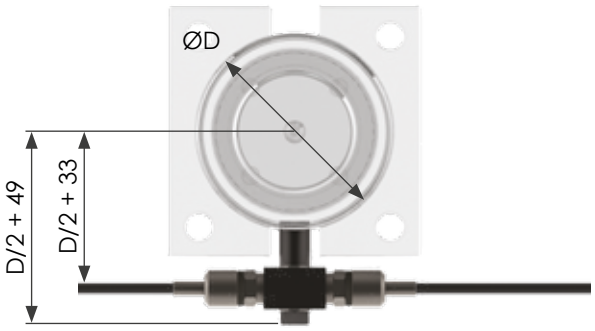


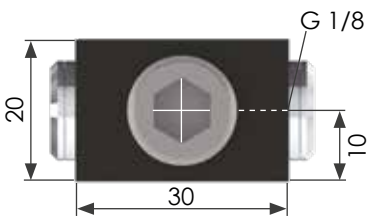


MET 1053

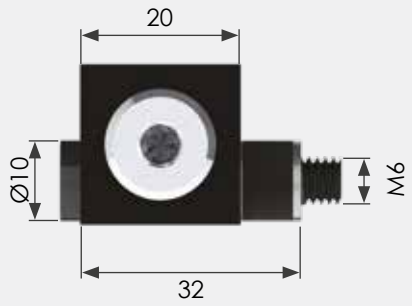
When springs are clamped using SF Flange.

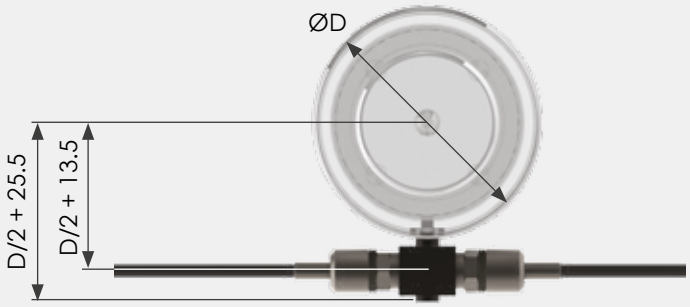


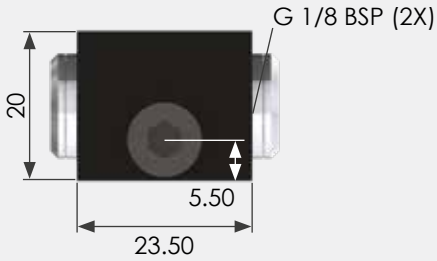


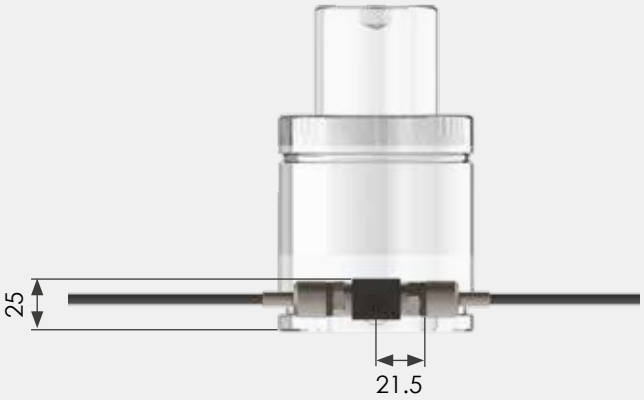


MET 1054



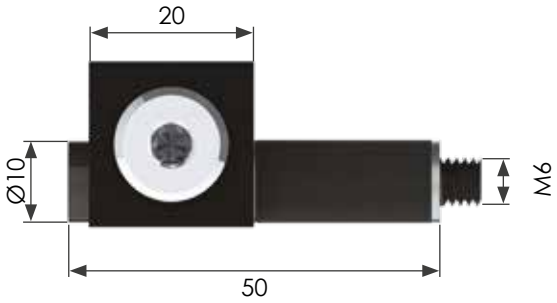


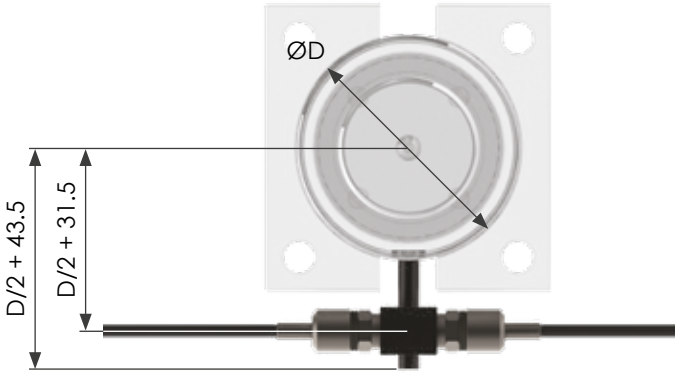


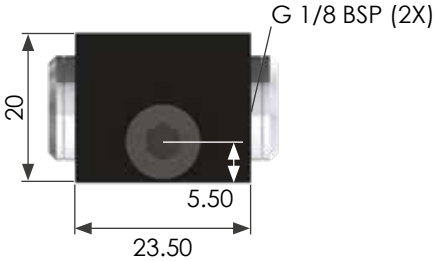


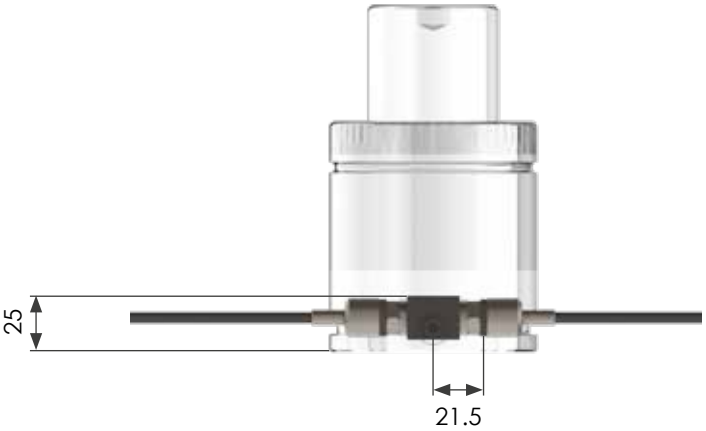
MET 1055

When using SF Flange.

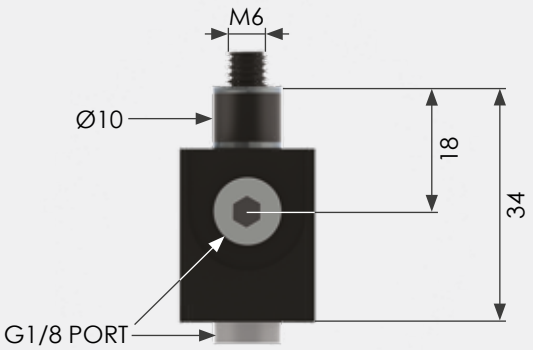


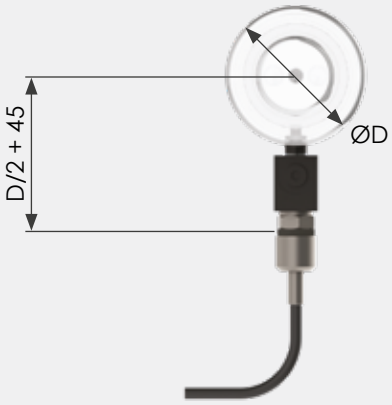






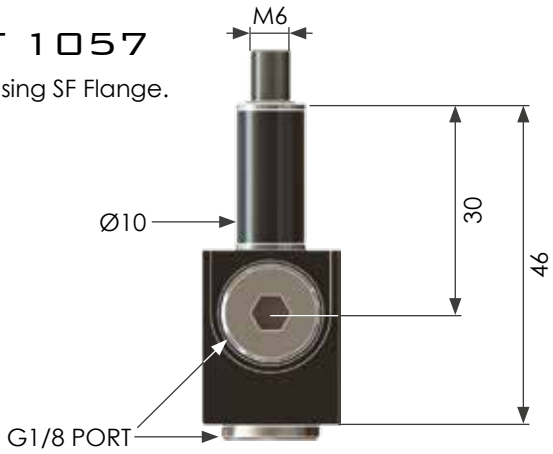
MET 1056

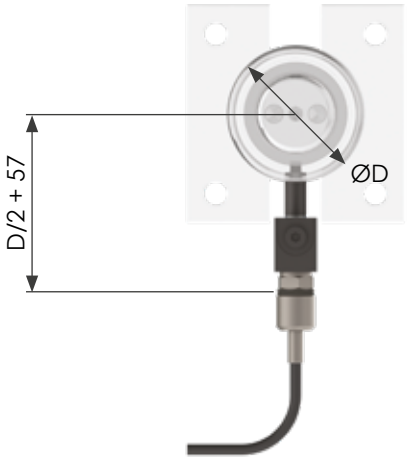




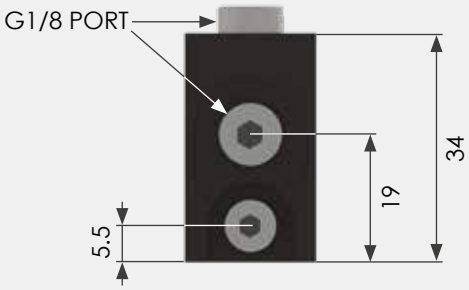
MET 1057

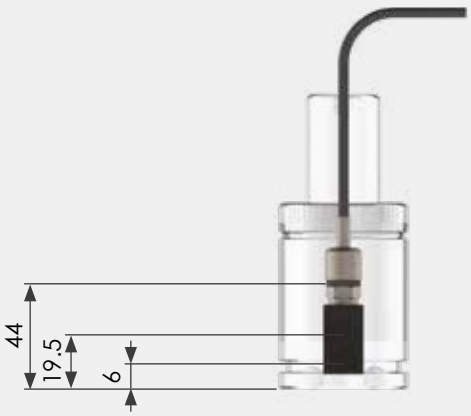
When using SF Flange.





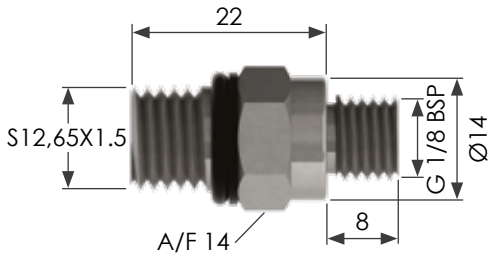
MET 1056 & 1057



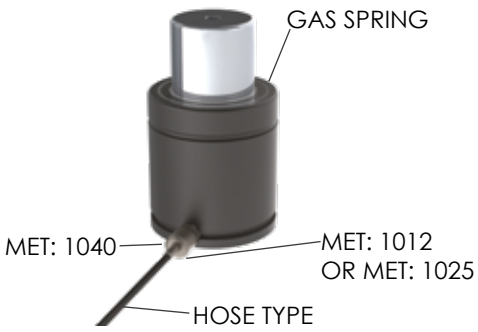


MET 1040

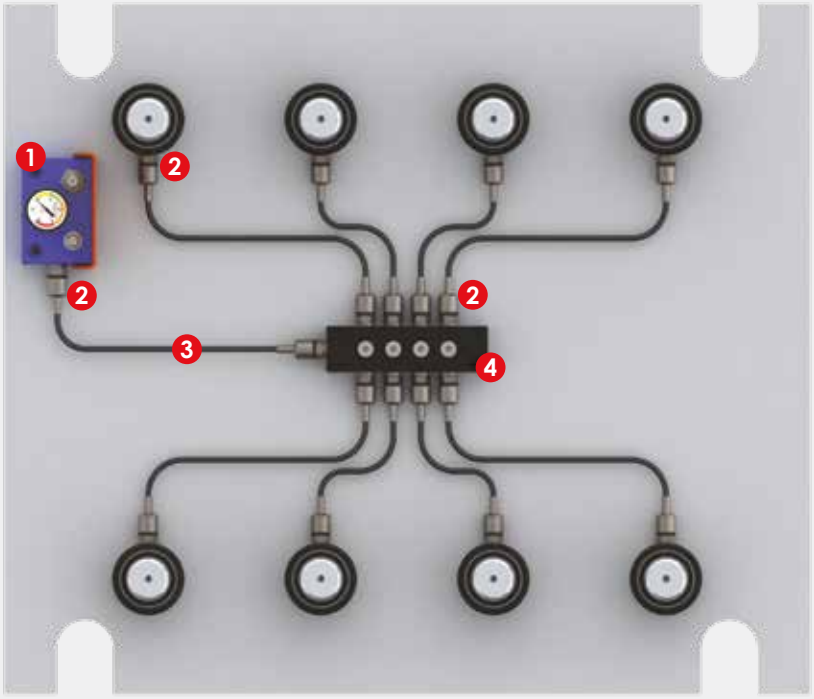
One way valve coupling

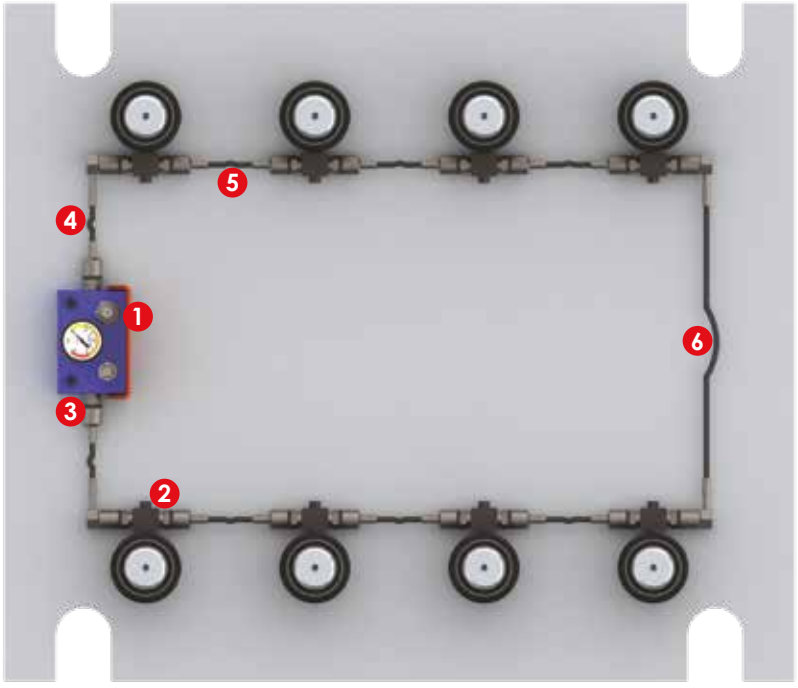


Gas Spring direct to CNOMO hose connection

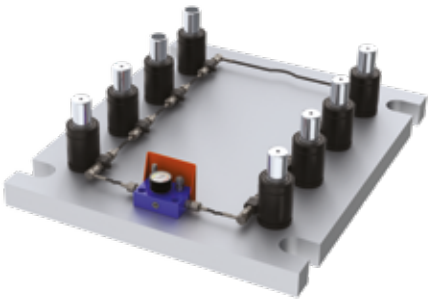


1. MET111 Control Panel
2. MET1040
3. MET1012
4. MET1060





1. MET111 Control Panel
2. MET1052
3. MET1040
4. MET1025
5. MET1012
6. MET1038



Features:

- Material: Black polyamide construction with synthetic fibre braid.
- Minimum bend radius: 20mm
- Max working pressure: 500bar

Advantages:

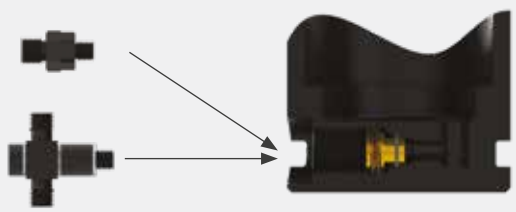
- Dual sealed to prevent leaking
- Compact hose fittings and adaptors where space is restricted.
- Direct connection of M6 and G1/8 port to hose

No direct hose to spring connection available for M6 port, the valve must be removed prior to fitting the hose system.

MET2001 – HOSE TO SPRING ADAPTOR

MET2010 TO MET2017 - SPRING TO T-ADAPTOR

M6 PORT

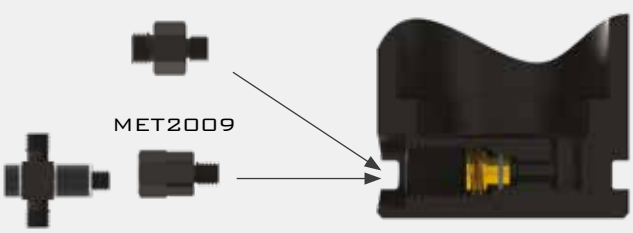


MET2002 - SPRING TO HOSE ADAPTOR

MET2010 TO 2017 - SPRING TO T-ADAPTOR

MET2009

G 1/8 PORT



The micro hose system is primarily used with M6 ports or where space is limited. The dual seal system prevents leaking and gives protection against vibration and rotation.

Custom hose lengths for the Micro range can be specified.

ORDER NO.	LENGTH (L)
MET 2020	200
MET 2021	300
MET 2022	400
MET 2023	500
MET 2024	600
MET 2025	800
MET 2026	1000
MET 2027	1500
MET 2028	2000
MET 2030	CUSTOMER SPECIFICATION
MINIMUM LENGTH 80MM	

BASIC INFORMATION

Material: Polyamide Black

External Dimension: 5mm

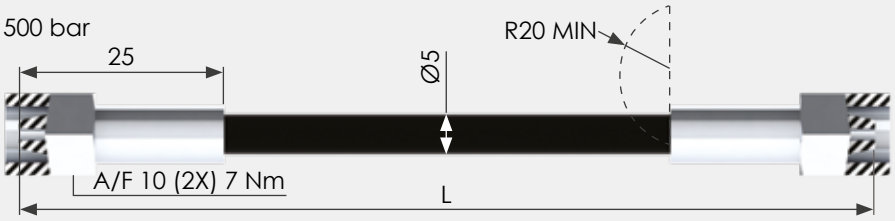
Volume: 3ml/meter

Outer Casing: Perforated

Min. Bend Radius: 20mm

Temperature Range: -20°C 80°C

Max. Working Pressure: 500 bar

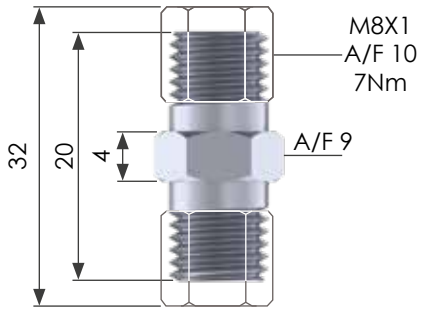


Please see page 116 for MICRO hose components MET1085 (Straight end) and MET1082 (Micro bore hose).

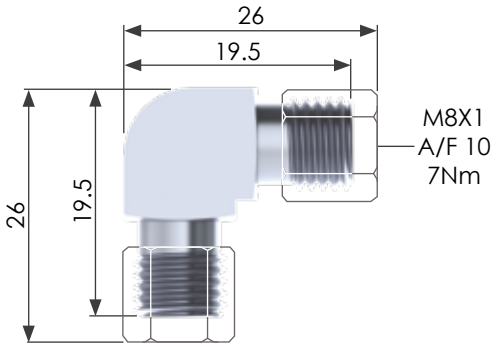
MICRO HOSE ADAPTORS

The following adapters are used to connect Micro Hose.

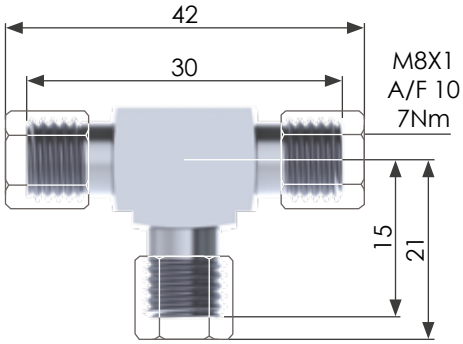
MET 2004



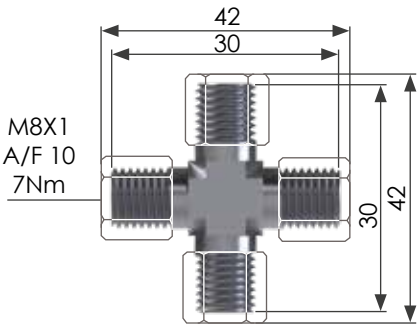
MET 2005



MET 2006

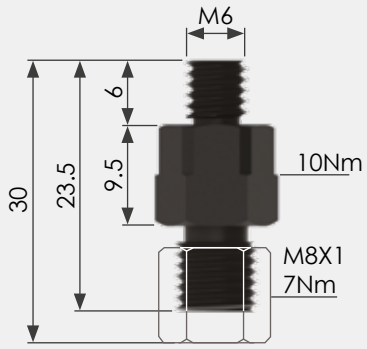


MET 2007



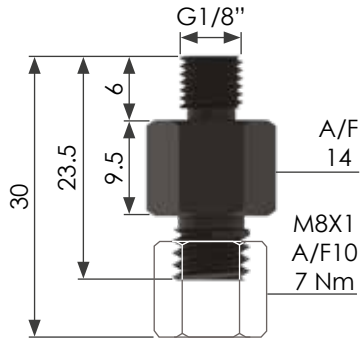
MET 2001

For connection of hose to gas spring with M6 Port.



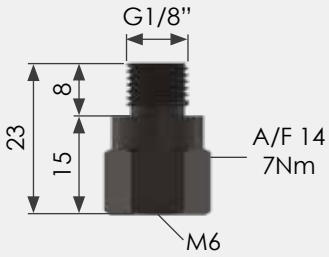
MET 2002

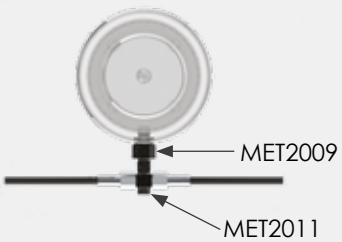
For connection to control panel or gas spring with G1/8 Port.



MET 2009

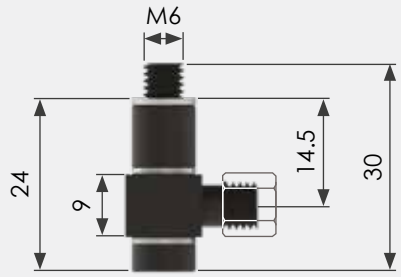
Adapter for Connection of G1/8 Port when using T-adapter on the Micro Hose System.

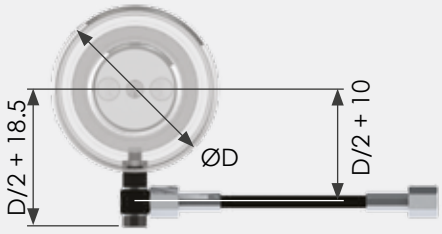


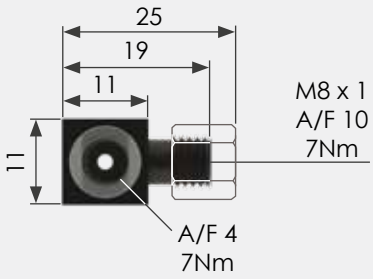


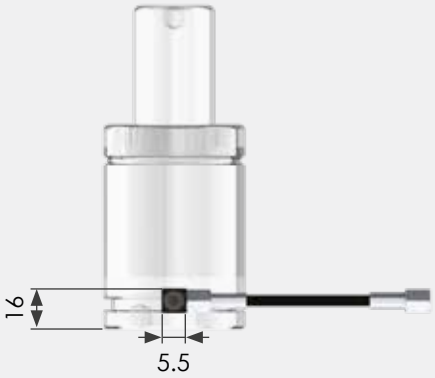
(All dimensions are mm, unless otherwise stated)

MET 2010



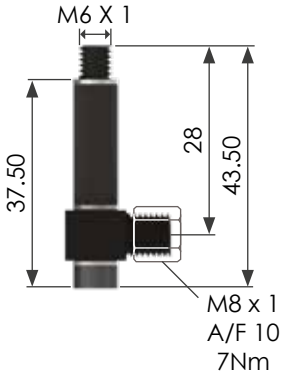


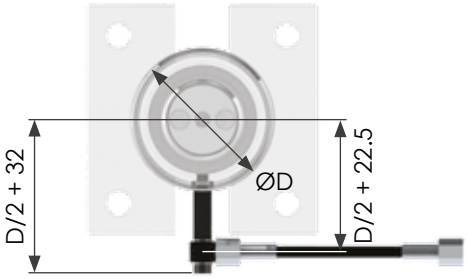


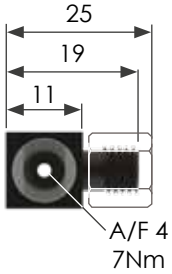


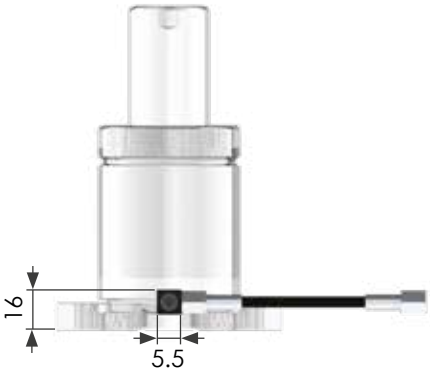
MET 2014

When using SF Flange.

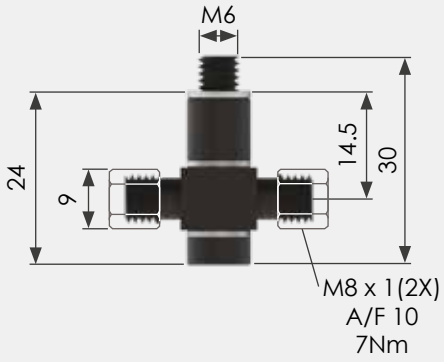


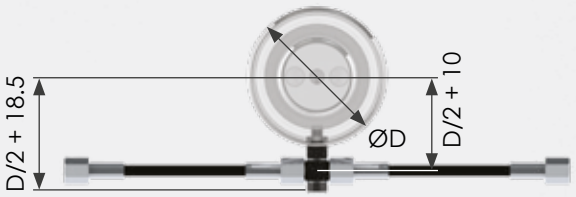


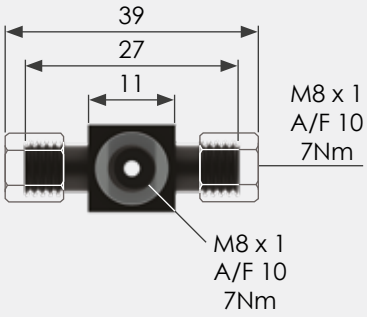




MET 2011

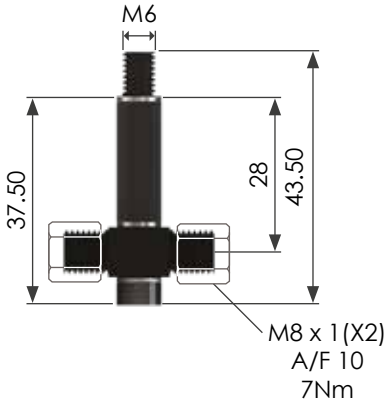


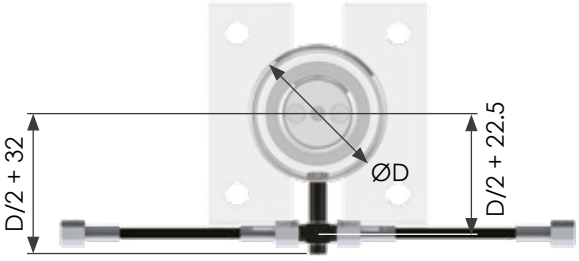


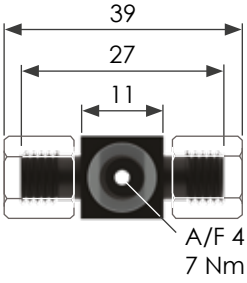


MET 2015

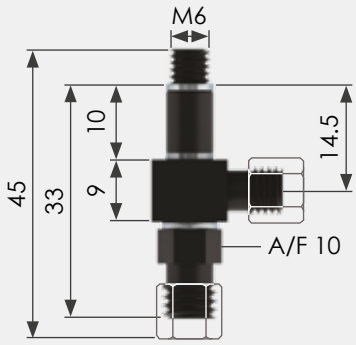
When using SF Flange.

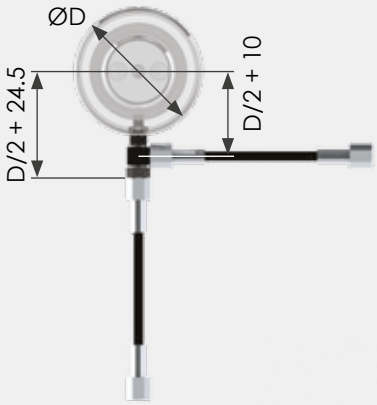


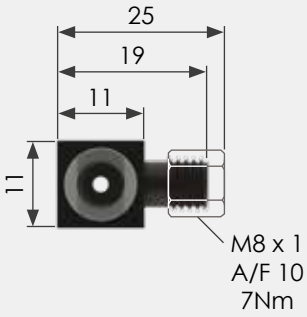


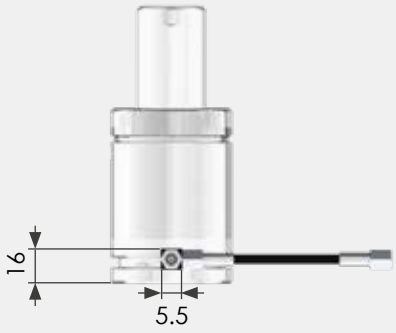


MET 2012



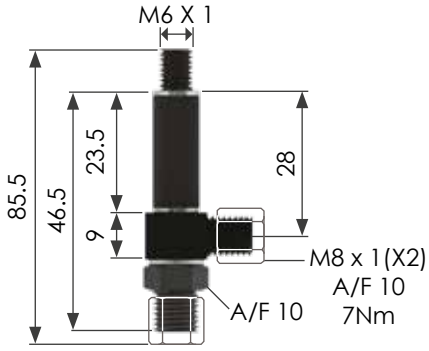


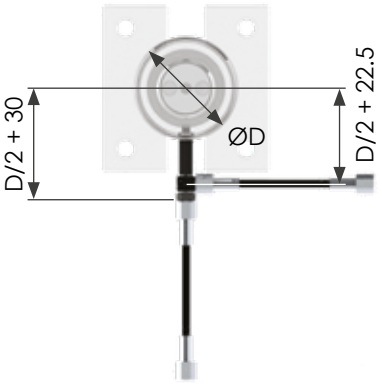


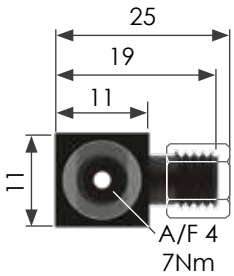


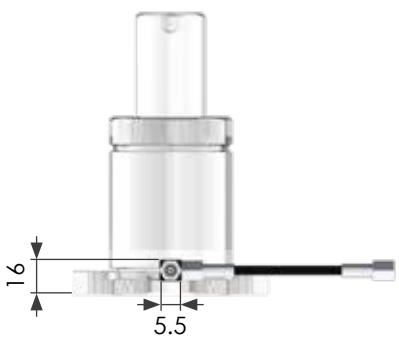
MET 2016

When using SF Flange.

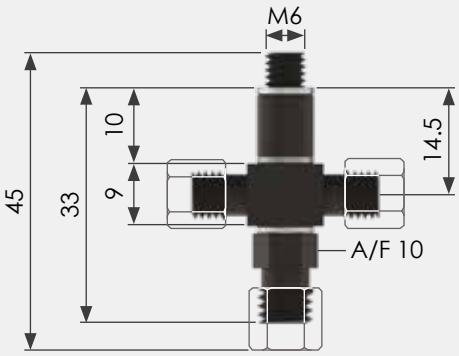


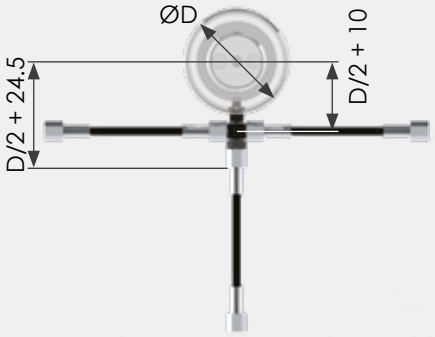


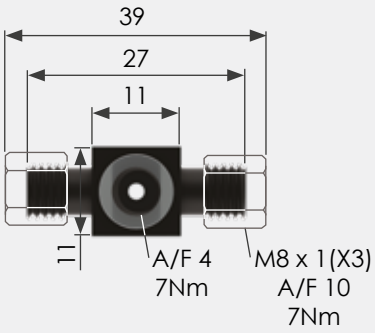




MET 2013

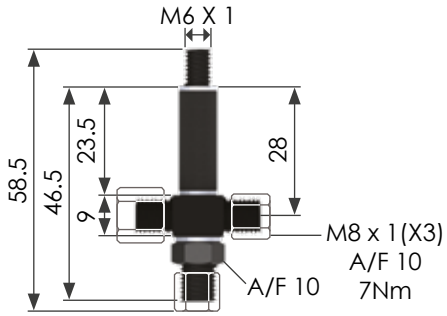


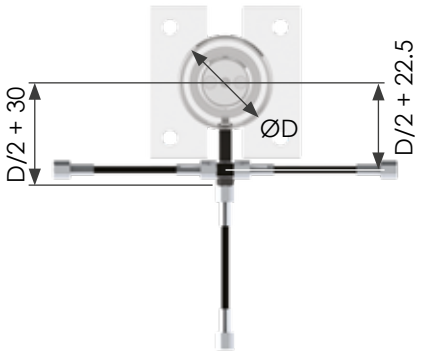


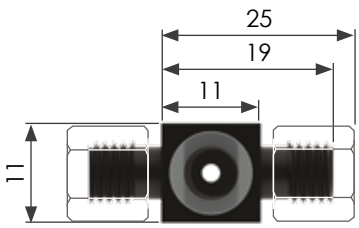


MET 2017

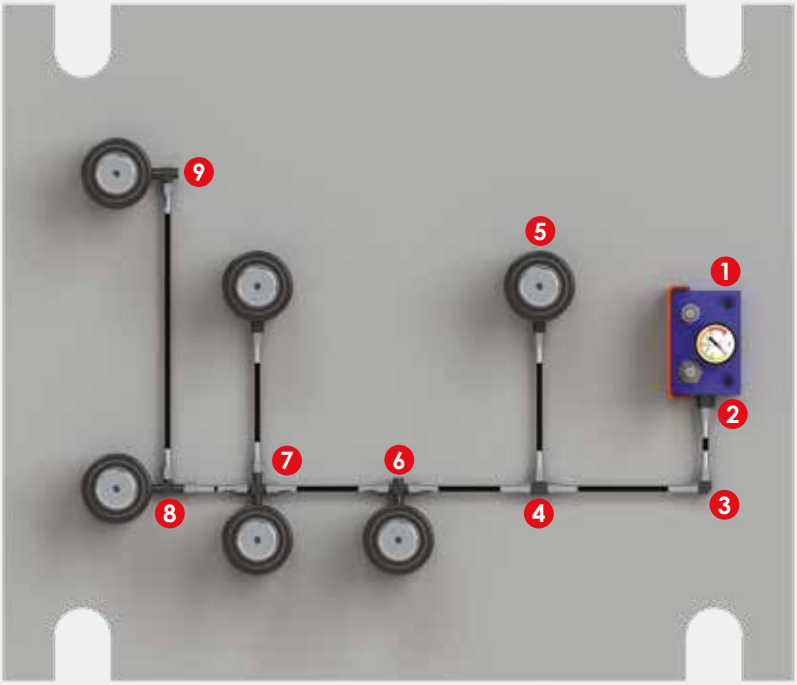
When using SF Flange.

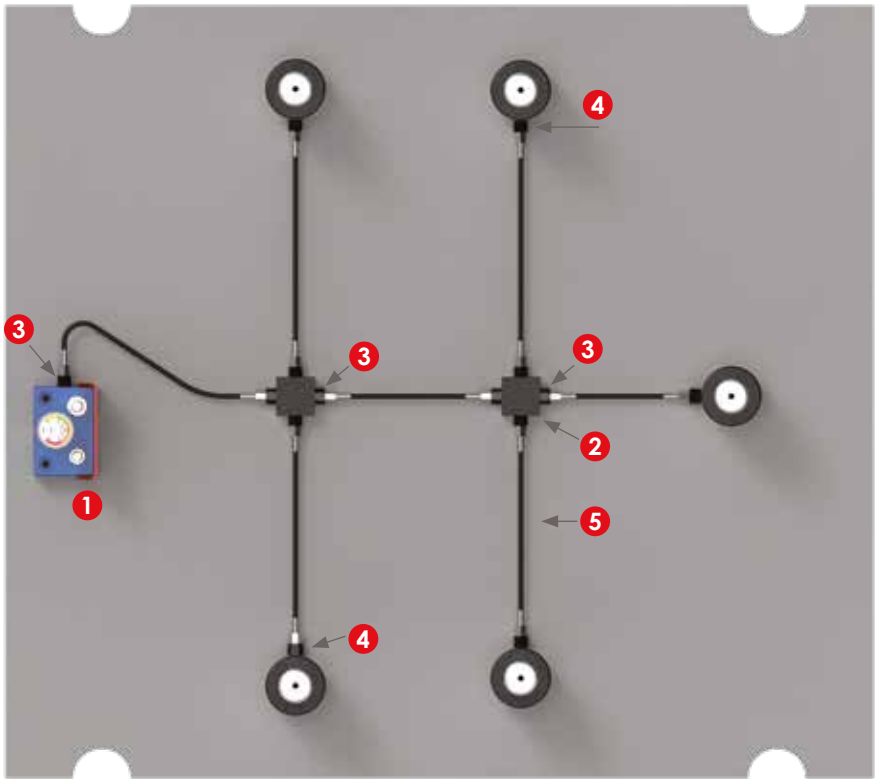






1. MET111 Control Panel
2. MET2002
3. MET2005
4. MET2006
5. MET2001
6. MET2011
7. MET2013
8. MET2012
9. MET2010





1. MET111 Control Panel
2. MET1061
3. MET2002
4. MET2001
5. MET2030

Features:

- Material: Black polyamide construction with synthetic fibre braid.
- Minimum bend radius: 40mm
- Max working pressure: 500bar

Advantages:

- Dual sealed to prevent leaking
- High flow rate for large volume springs
- High flow rate for use with expansion tanks
- Direct connection of M12 and G1/8 port to hose

The valve must be removed prior to fitting the hose system.

G 1/8 PORT

MET3001 – HOSE TO SPRING ADAPTOR

MET3001

The S24 System uses large bore hose where high gas flow is required.

S24 hoses can be used where larger gas springs are fitted which will allow quicker charging and degassing of the system.

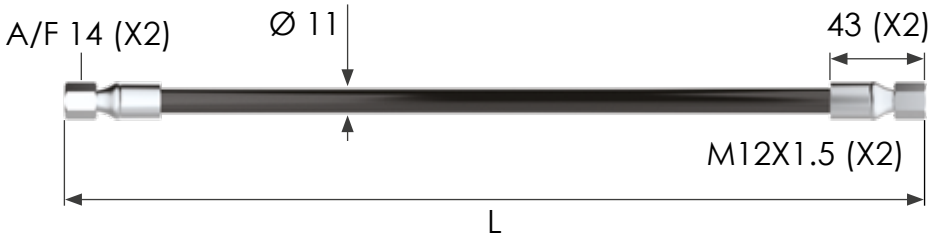
S24 hoses must be used where expansion tanks are fitted to the system.

S24 hoses have a seal in the end fittings ensuring a reliable, leak free hose system.

BASIC INFORMATION

Material: Thermoplastic
Min. Bend Radius: 40mm
Ext. Dimension: 11mm
Temperature Range: -40 °C - +93 °C

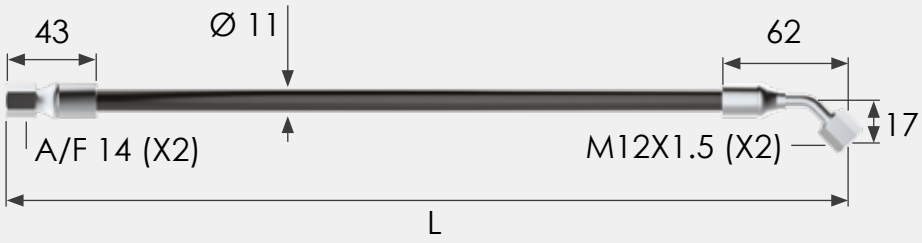
STRAIGHT - STRAIGHT



Part Number	Length (L)
MET 3020	XXXXmm (length)

Ordering example: MET3020-100mm

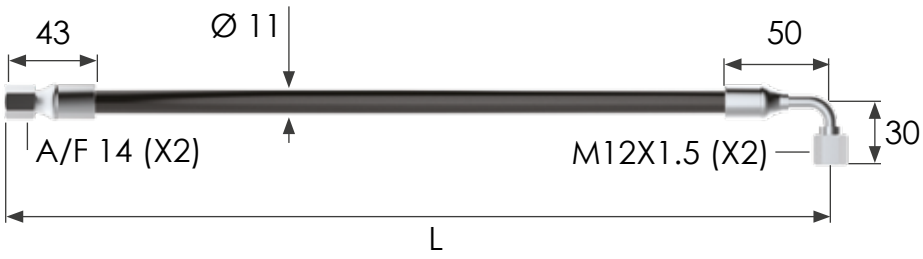
STRAIGHT - 45 °



Part Number	Length (L)
MET 3021	XXXXmm (length)

Ordering example: MET3021-100mm

STRAIGHT - 90 °



Part Number	Length (L)
MET 3022	XXXXmm (length)

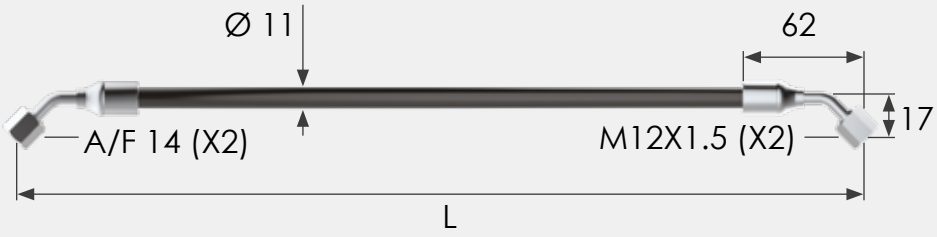
Ordering example: MET3022-100mm

Please see page 111 for S24 hose components MET3012 (Straight end) MET3013 (45 degree end) and MET3014 (90 degree end).

45 ° - 45 °

Part Number	Length (L)
MET 3023	XXXXmm (length)

Ordering example: MET3023-100mm



90 ° - 90 °

Part Number	Length (L)
MET 3024	XXXXmm (length)

Ordering example: MET3024-100mm

45 ° - 90 °

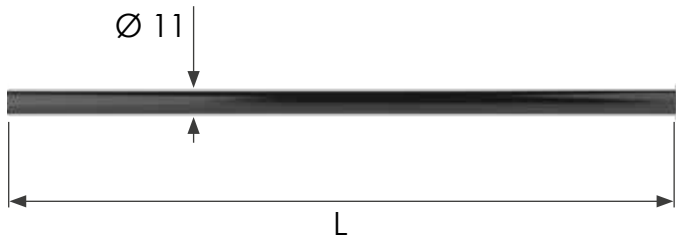
Part Number	Length (L)
MET 3025	XXXXmm (length)

Ordering example: MET3025-100mm

S24 Hose

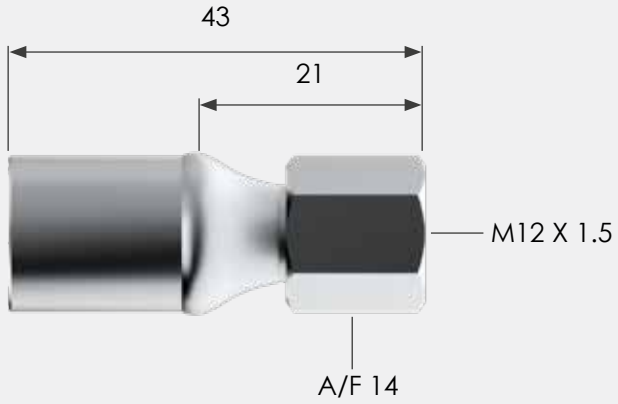
Part Number	Length (L)
MET 3015	XXXXmm (length)

Ordering example: MET3015-100mm

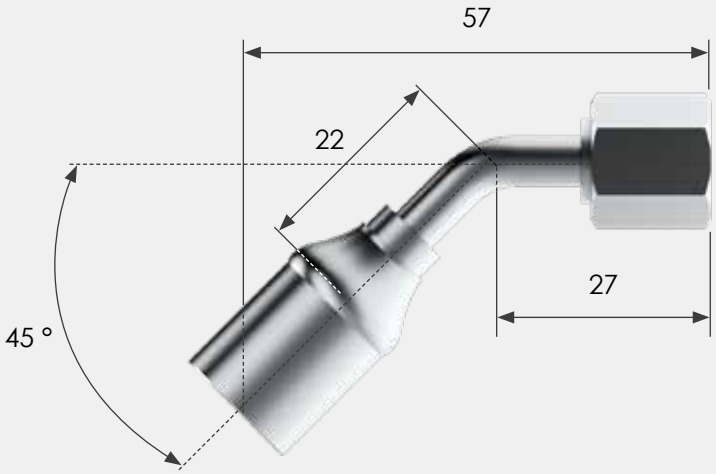


Please see page 111 for S24 hose components MET3012 (Straight end) MET3013 (45 degree end) and MET3014 (90 degree end).

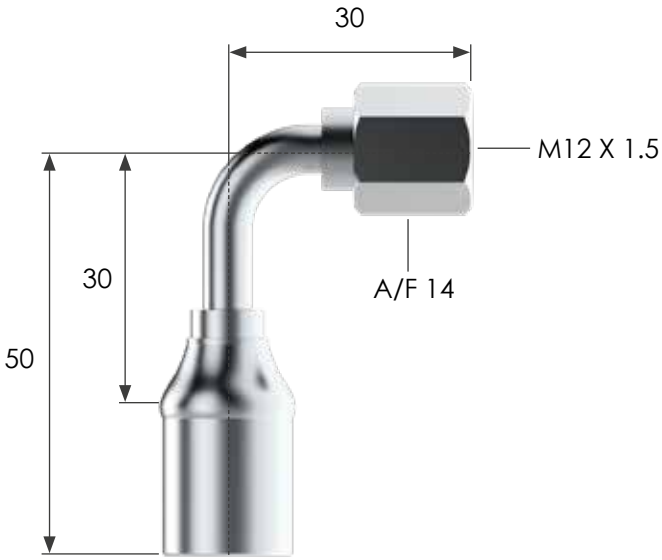
MET 3012
S24 Straight hose end



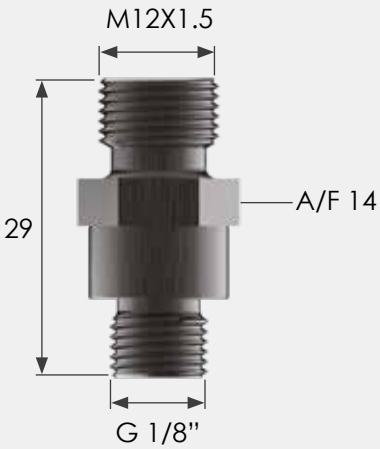
MET 3013
S24 45 ° Elbow hose end



MET 3014
S24 90 ° Elbow hose end



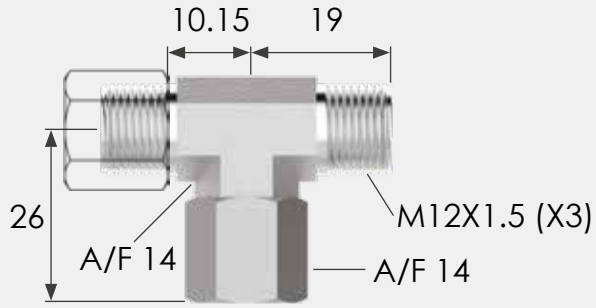
MET 3001
S24 G1/8 adaptor for direct connection of hose to spring or MET002 to MET005.

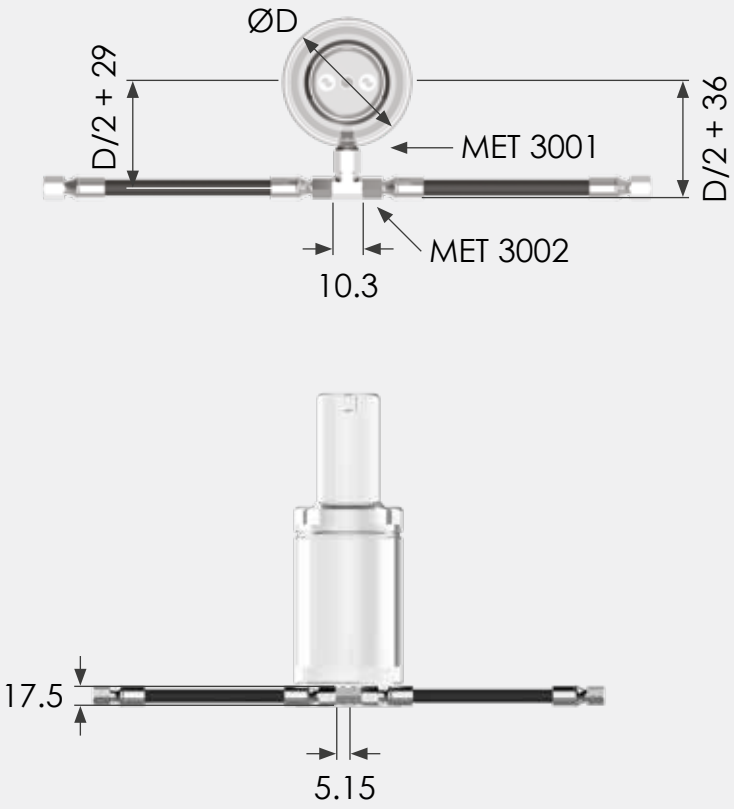


S24 HOSE ADAPTOR

MET 3002

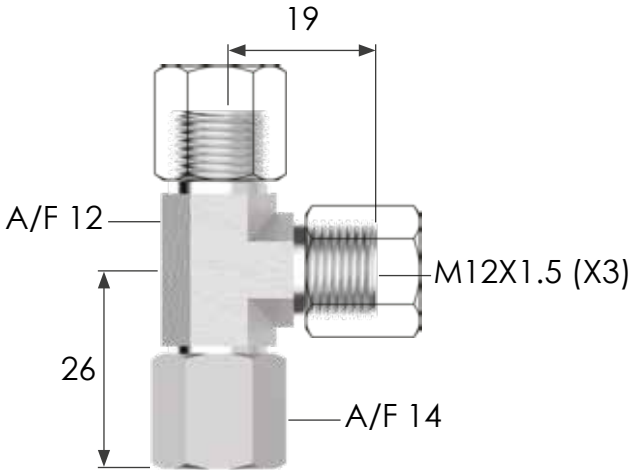
S24 T-Piece adaptor

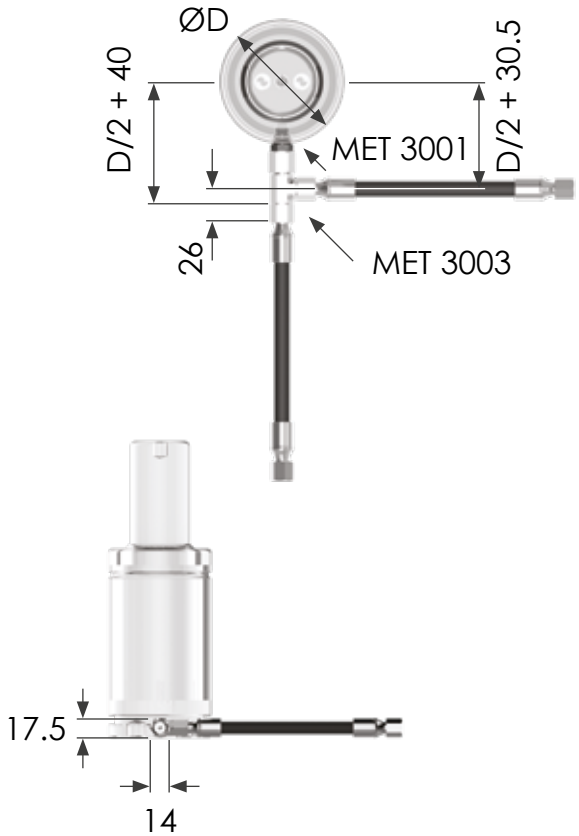




MET 3003

S24 90 ° T adaptor

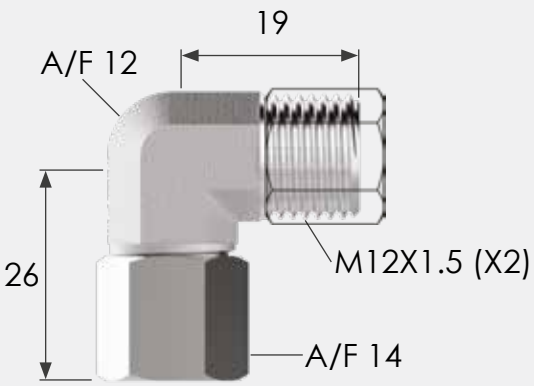


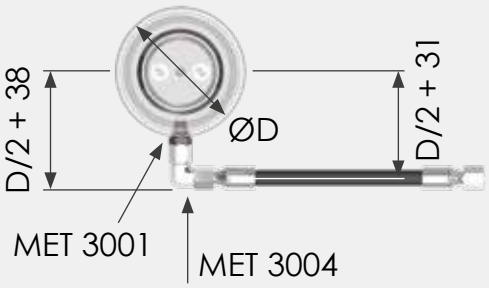


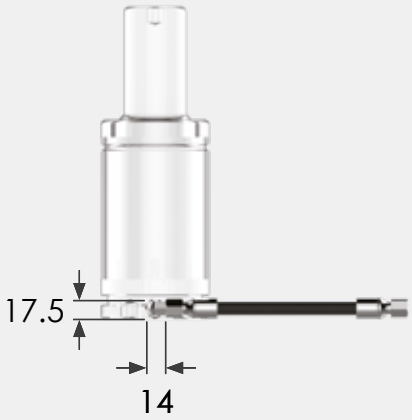
Flanges available with S24 hose systems

MET 3004

S24 90 ° Elbow adaptor

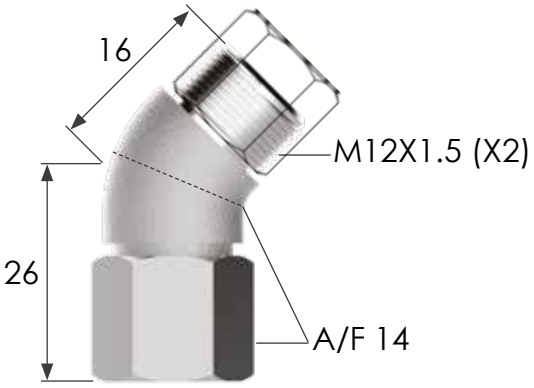


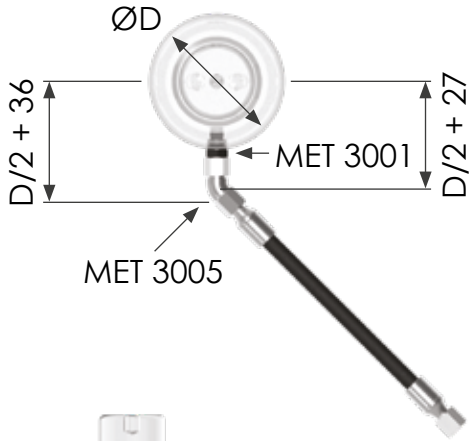


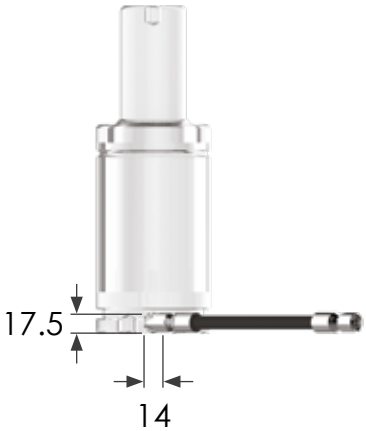


MET 3005

S24 45 ° Elbow adaptor





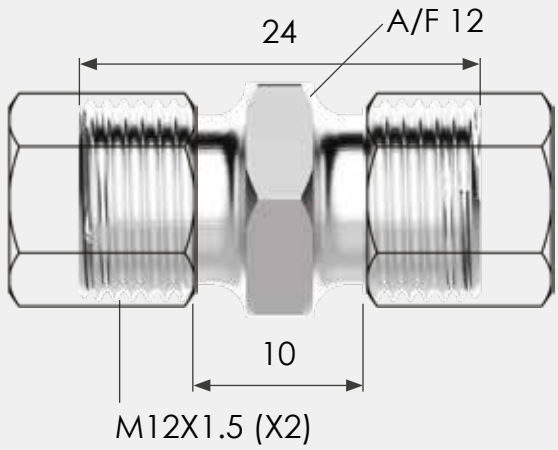


Flanges available with S24 hose systems

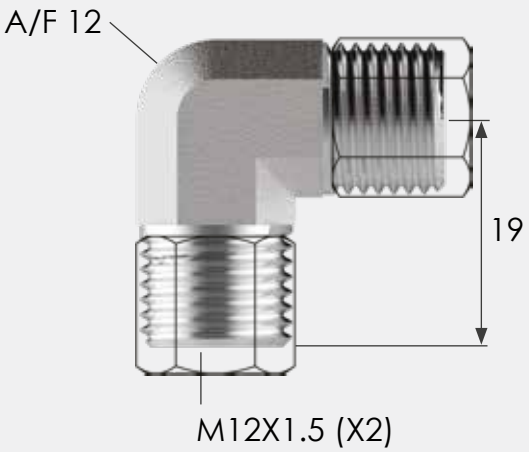
S24 HOSE ADAPTORS

The following adaptors & couplings
are used to connect S24 Hoses

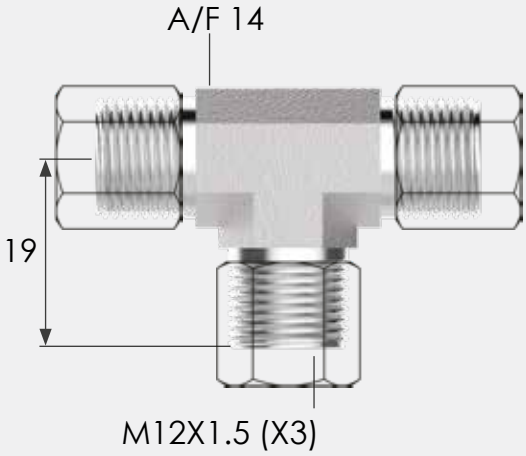
MET 3007
S x S hose connector



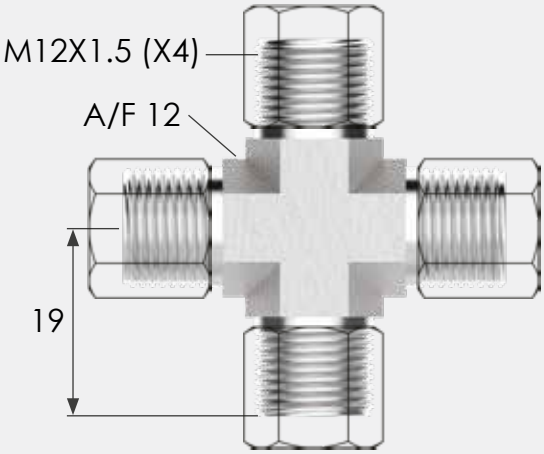
MET 3008
90 ° Elbow hose connector



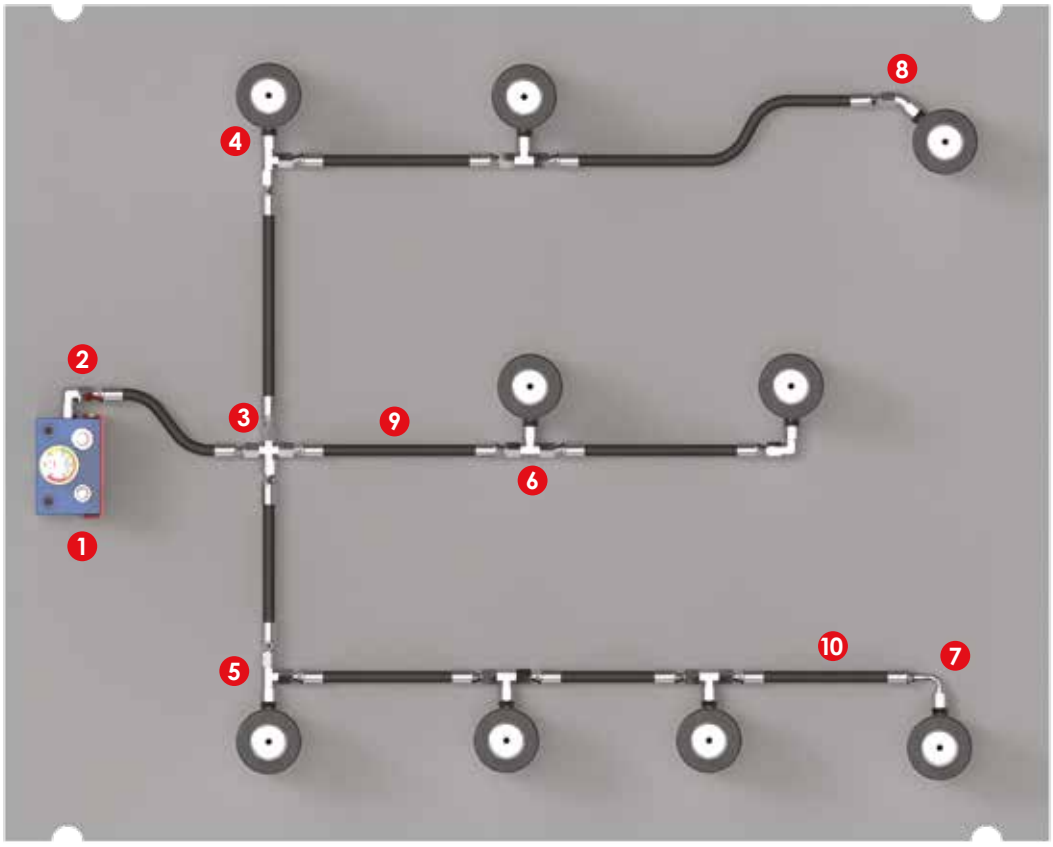
MET 3009
T hose connector



MET 3010
Cross hose connector



1. MET111 Control Panel
2. MET3004
3. MET3010
4. MET3001
5. MET3003
6. MET3002
7. MET3014
8. MET3005
9. MET3020
10. MET3022



MET: 1080
CNOMO END FITTING - STRAIGHT

MET: 1081
CNOMO END FITTING - 90 DEGREE

MET: 1085
MICRO HOSE END

MET: 1082 - MICRO BORE HOSE
5MM DIA. HOSE FOR BOTH MICRO AND CNOMO HOSE SYSTEMS

MET: 1086
HOSE CUTTERS

MET: 1087
PORTABLE HOSE CRIMPING MACHINE

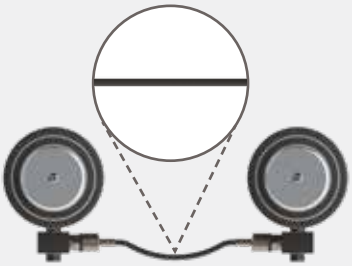
MET: 1088
BENCH MOUNT HOSE CRIMPING MACHINE

MET: 1089
PNEUMATIC FOOT OPERATED PEDAL

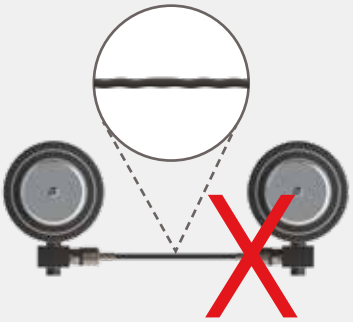
HOSE INSTALLATION GUIDELINES

Never exceed maximum values given for pressure and temperature for the hoses. Make sure all hoses and couplings are perfectly clean before fitting.

Select a hose length that will allow for a certain amount of movement.

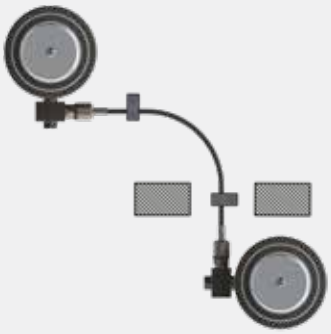


The longitudinal marking on the hose must not be twisted after fitting.

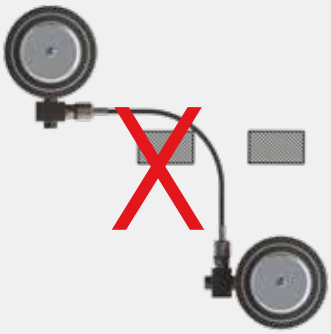


Select hose couplings that avoid sharp bends in the hose.

Never go below the recommended minimum bend radius of the hose.



Fix the hose correctly to avoid mechanical damage.

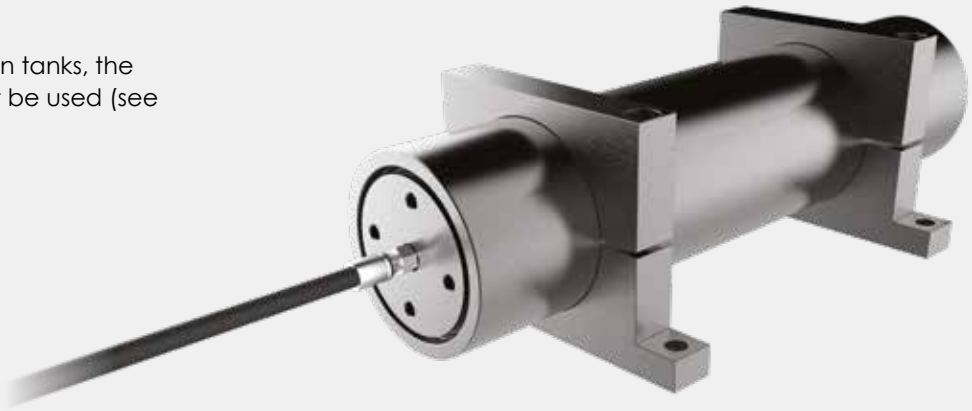


MET009 hose clip for both CNOMO and MICRO hose systems

MET010 hose clip for S24 hose systems

Expansion tanks can be fitted to a hosed gas spring system to reduce the force rise during spring compression. The size and volume of the tank will determine the force increase, this can be calculated using the formula shown below:

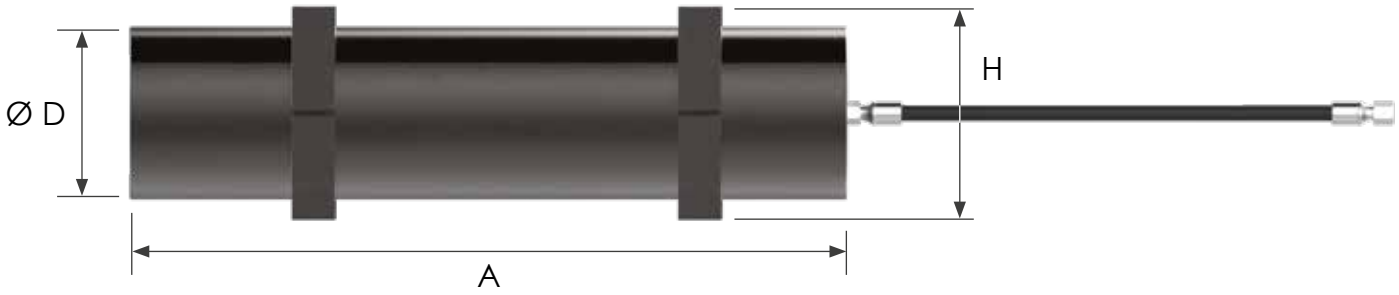
When using expansion tanks, the S24 hose system must be used (see pages 108 - 115).



EXPANSION TANK SIZES

Part Number	Diameter (ØD)	Length (A) (cm)	Volume (cm3)
TANK-EXP-075-(A)	Ø75	XXX	= 31.50 x (A - 5)
TANK-EXP-095-(A)	Ø95	XXX	= 50.24 x (A - 5)
TANK-EXP-120-(A)	Ø120	XXX	= 78.50 x (A - 5)
TANK-EXP-150-(A)	Ø150	XXX	= 122.60 x (A - 5)

Ordering example: Tank-Exp-075-300-100



Example: Ve=N((AxSxFi/(Fi-1)) – V1)

Ve = Expansion tank volume
N = Number of springs
A = Area of piston rod (cm2)
S = Effective stroke used
Fi = Force increase
V1 = Initial volume of each cylinder (cm3)

FIXING CLAMPS (See page 85 for full range)

Expansion Tanks	Fixing Clamps	Height (H)
TANK-EXP-075	>ES075	105mm
TANK-EXP-095	>ES095	125mm
TANK-EXP-120	>ES120	148mm
TANK-EXP-150	>ES150	200mm

EXPANSION TANK
TYPICAL SYSTEM SETUP

GAS SPRING SERVICING ACCESSORIES

To check that a gas spring is at the correct force, a test stand should be used. Testing in any other way could be dangerous and cause a safety issue.

Designed to measure the initial gas spring force with an accurate easy to read digital display.

MET: 8220
BENCH MOUNTED TEST STAND

10t bench test stand with digital display.

For use with lower tonnage gas springs and short stroke full height springs. Maximum gas spring height 280mm.

MET8220

MET: 8223
FLOOR MOUNTED TEST STAND

20t floor test stand with digital display.

For use on all gas spring types including high tonnage and long strokes.


MET8223

Gas spring force should be checked with a test stand only!

NITRO-SPRING SERVICE KITS

Kit includes:

- Complete seal unit.
- Retaining Clip & Dust Seal.
- Grease.
- Oil Bottle.
- Plug & Valve.

* See gas spring data page for overhaul kit part number.

Only a trained engineer should overhaul a gas spring.

MET: 8101
G1/8 PORT

MET: 8102
M6 PORT

IMPORTANT SAFETY INFORMATION

ONLY TRAINED AND CERTIFIED PERSONS SHOULD ATTEMPT TO CARRY OUT MAINTENANCE WORK ON GAS SPRINGS.

MET: 8200
HOSE & SHUT OFF VALVE

MET: 8202
CHARGE UNIT

MET: 8205
FEMALE CHARGE FITTING

MET: 8202

CONTROL PANEL
(MET222)

MET: 8206
MET: 8208

MET: 8205

MET: 8200

MET: 8221
63 DIAMETER MANOMETER

MET: 8222
48 DIAMETER MANOMETER

MET: 8204
MALE CHARGE FITTING

MET: 8200
HOSE & SHUT OFF VALVE

MET: 8201
REGULATOR

MET: 8202
CHARGE UNIT - G1/8

MET: 8205
FEMALE CHARGE FITTING

MET: 8206
M6 CHARGE ADAPTOR

MET: 8208
M8 CHARGE ADAPTOR

MET: 8210
BLEED VALVE

Designed to maximise and utilise the full bottle of nitrogen when charging gas springs and gas spring systems.

With gas springs requiring a charge pressure of 150bar on standard springs and up to 200 bar on mini springs, nitrogen bottles with a nominal pressure of 230 or 300 bar do not last long. When the nitrogen bottle pressure drops below 150 bar the bottle must be changed for a new one, this can be wasteful and expensive. The booster unit will allow the bottle pressure to fall to 5bar whilst maintaining an output flow up to 200 bar, thus utilising the full bottle.

Two options are available: the single acting or double acting booster unit. Selection should be based upon the level and frequency that gas springs are charged.

MET: 8320 SINGLE ACTING BOOSTER UNIT

DIMENSIONS:
46.4 X 36.6 X 17.6CM

Minimum air pressure required: 5bar

Recommended for regular charging of gas springs and pipe systems.

MET: 8321 DOUBLE ACTING BOOSTER UNIT

DIMENSIONS:
55 X 48 X 73CM

Minimum air pressure required: 5bar

Recommended for regular charging of high volume gas springs and large pipe systems.

MET: 8216 GAS SPRING TOOL KIT

Provides all necessary equipment to overhaul and maintain Nitro-Springs.

MET: 8006 DEGASSING TOOL M6 & G1/8

MET: 8005 M6 VALVE TOOL

T-BAR: MET: 9005 - M6
MET: 8017 - M8

MET: 8009 CONTROL PANEL DEGASSING TOOL

MET: 8206
M6 CHARGE ADAPTER

MET: 8205
FEMALE CHARGE FITTING

MET: 8217
LEAK DETECTOR SPRAY

MET: 8003
CLIP REMOVING TOOL

MET: 8000
SEAL UNIT DEPRESSOR