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NITROGEN GAS SPRINGS

FOR HOT STAMP APPLICATIONS

MANUFACTURED IN THE UK



The engineers choice

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The HS Hot Stamp range of gas springs from Metrol have been specifically designed to meet the challenges of the hot stamping environment. Metal dust and debris from the hot stamping process, pitting, scratching and corrosion of piston rods, can all lead to early failure in standard gas springs. Metrol's HS range of springs are engineered to reduce and eliminate these issues, and to provide a gas spring that can perform in the hot stamp environment without any reduction in life.

The combination of the following protective design elements results in a spring with un-paralleled performance in hot stamp applications.

Metrol's engineered solution includes;

Specially developed piston rods:

- High corrosion resistance
- Low friction efficiency
- Withstands exceptional loads and wear
- High impact resistance
- High abrasion resistance

Tri-Scraper and Dual Scraper systems – ultimate seal protection

- Removes all contaminates from small dust particles to larger metal fragments
- Combination of wiper materials for increased effectiveness
- Resistant to damage from metal debris
- Flexible with side loading

High temperature seals

- Long life in high temperature environments



Patent Pending

GAS SPRING SELECTION GUIDE

SERIES	DESCRIPTION	MODELS	STROKE LENGTH	INITIAL FORCE	TOTAL LENGTH	BODY DIA.	OVERVIEW PAGE
	Rod sealed, high force, most compact gas spring available.	HS-EX0500	25 - 125	500	42 + (2 x stroke)	38	05
		HS-EX0750	25 - 125	750	44 + (2 x stroke)	45	06
		HS-EX1000	25 - 125	1000	50 + (2 x stroke)	50	07
		HS-EX1500	25 - 125	1500	56 + (2 x stroke)	63	08
		HS-EX2400	25 - 125	2400	57 + (2 x stroke)	75	09
		HS-EX4200	25 - 125	4200	70 + (2 x stroke)	95	10
		HS-EX6600	25 - 125	6600	80 + (2 x stroke)	120	11
		HS-EX9500	25 - 125	9500	90 + (2 x stroke)	150	12
	Extended version of the EX, with a G 1/8 port and deeper tapped holes in the base.	HS-G-EX0500	25 - 125	500	52 + (2 x stroke)	38	14
		HS-G-EX0750	25 - 125	750	59 + (2 x stroke)	45	15
		HS-G-EX1000	25 - 125	1000	64 + (2 x stroke)	50	16
		HS-G-EX1500	25 - 125	1500	64 + (2 x stroke)	63	17
		HS-G-EX2400	25 - 125	2400	71 + (2 x stroke)	75	18
		HS-G-EX4200	25 - 125	4200	74 + (2 x stroke)	95	19
	Optimum design for gas spring durability conforming to ISO 1901 standard.	HS-NG1500	25 - 300	1500	110 + (2 x stroke)	75	21
		HS-NG3000	25 - 300	3000	120 + (2 x stroke)	95	22
		HS-NG5000	25 - 300	5000	140 + (2 x stroke)	120	23
		HS-NG7500	25 - 300	7500	155 + (2 x stroke)	150	24
	MX combines the power of the EX range with the standard size of the ISNG range.	HS-MX1000	13 - 300	1000	95 + (2 x stroke)	50	26
		HS-MX2400	25 - 300	2400	110 + (2 x stroke)	75	27
		HS-MX4200	25 - 300	4200	120 + (2 x stroke)	95	28
		HS-MX6600	25 - 300	6600	140 + (2 x stroke)	120	29
		HS-MX9500	25 - 300	9500	155 + (2 x stroke)	150	30

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HS-EX RANGE OVERVIEW

HS-EX0500
HS-EX0750
HS-EX1000
HS-EX1500
HS-EX2400
HS-EX4200
HS-EX6600
HS-EX9500

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HS-G-EX RANGE OVERVIEW

HS-G-EX0500
HS-G-EX0750
HS-G-EX1000
HS-G-EX1500
HS-G-EX2400
HS-G-EX4200

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HS-NG RANGE OVERVIEW

HS-NG1500
HS-NG3000
HS-NG5000
HS-NG7500

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HS-MX RANGE OVERVIEW

HS-MX1000
HS-MX2400
HS-MX4200
HS-MX6600
HS-MX9500

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FASTENING ACCESSORIES

HS-NG FLANGES
HS-EX, HS-G-EX & HS-MX FLANGES
SQUARE FLANGE, BASE PLATE & FOOT

**FOR THE FULL RANGE OF GAS SPRING ACCESSORIES,
PLEASE SEE THE MAIN GAS SPRING CATALOGUE**

Patent Pending



The HS-EX range of gas springs for hot stamp applications has been developed based on the EX range of gas springs, but incorporates features that are specifically designed to overcome issues related to hot stamping.

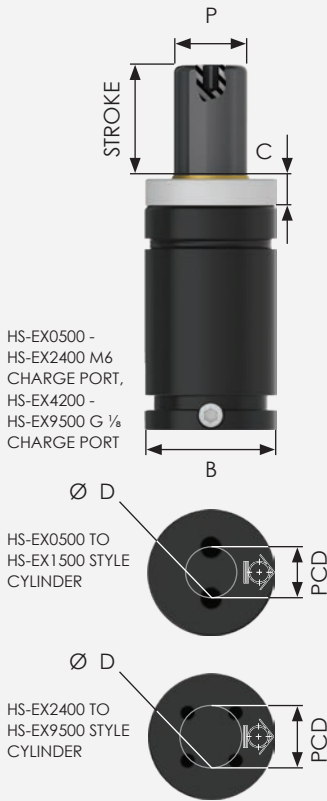
Unique Piston Rod Treatment

- Prevents corrosion and pitting of the sealing surface.
- Reduces adhesion of abrasive material.

Special Tri Wiper Design

- Incorporates a metal scraper for removal of highly adhesive & abrasive metal debris.
- Secondary back up rubber wiper to remove contamination.

Compatible with both Cnomo and Micro hose systems.



HS-EX0500 -
HS-EX2400 M6
CHARGE PORT,
HS-EX4200 -
HS-EX9500 G 1/8
CHARGE PORT

HS-EX0500 TO
HS-EX1500 STYLE
CYLINDER

HS-EX2400 TO
HS-EX9500 STYLE
CYLINDER

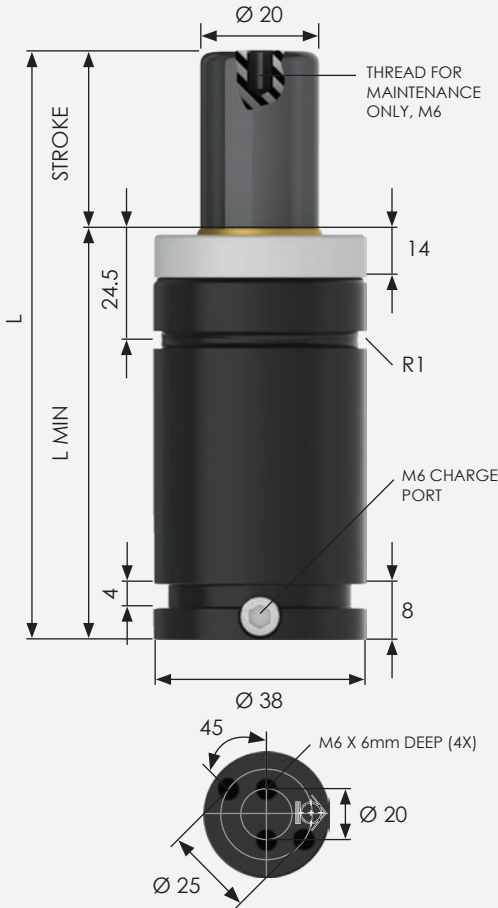
SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
HS-EX0500	20/25	M6 X 2	6mm
HS-EX0750	20	M8 X 2	6mm
HS-EX1000	20	M8 X 2	6mm
HS-EX1500	20	M8 X 2	6mm
HS-EX2400	40	M8 X 4	6mm
HS-EX4200	60	M8 X 4	12mm
HS-EX6600	80	M10 X 4	12mm
HS-EX9500	100	M10 X 4	13mm

Patent Pending

USE ONLY NITROGEN		
MAX. PRESSURE: 150 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC



MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM		OVERHAUL
							MICRO	CNOMO	
HS-EX0500	20	38	500	25 - 125	14	TH, FF, SF, SFF, ES	✓	✓	✓
HS-EX0750	25	45	750	25 - 125	14	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-EX1000	28	50	1000	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-EX1500	36	63	1500	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-EX2400	45	75	2400	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-EX4200	60	95	4200	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-EX6600	75	120	6600	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-EX9500	90	150	9500	25 - 125	15	TH, FF, SF, SFF, BP	✓	✓	✓



MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX0500-025	500	779	67	93	0.03	0.31
HS-EX0500-038		795	80	118	0.04	0.36
HS-EX0500-050		803	92	143	0.05	0.40
HS-EX0500-063		825	105	168	0.06	0.45
HS-EX0500-080		814	122	202	0.08	0.52
HS-EX0500-100		817	142	242	0.10	0.60
HS-EX0500-125		821	167	292	0.12	0.70

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

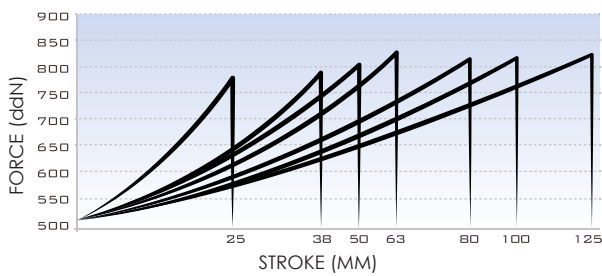
MAX. PRESSURE: 150 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC
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SERVICE KIT
HS-EX0500

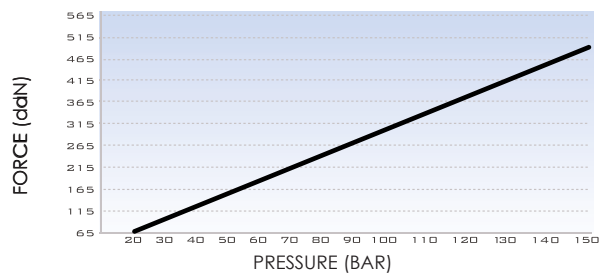
PED
97/23/EC



FORCE CURVE



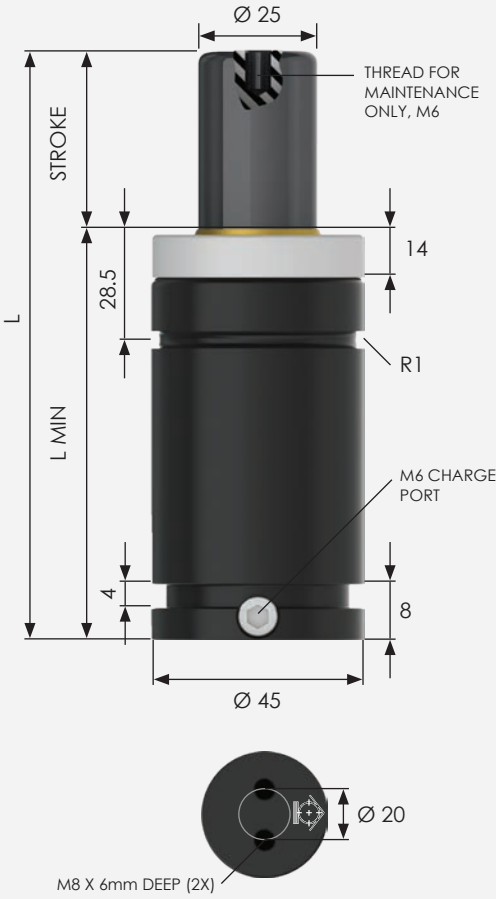
FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX0750-025	0750	1145	69	95	0.04	0.45
HS-EX0750-038		1170	82	120	0.05	0.53
HS-EX0750-050		1180	94	145	0.07	0.61
HS-EX0750-063		1220	107	170	0.09	0.69
HS-EX0750-080		1210	124	204	0.11	0.80
HS-EX0750-100		1215	144	244	0.13	0.93
HS-EX0750-125		1220	169	294	0.17	1.09

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



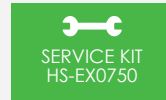
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

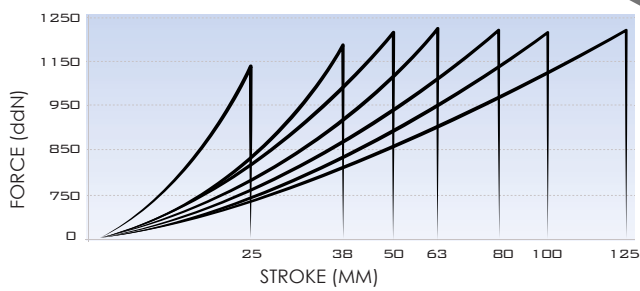
MAX. PISTON VELOCITY: 1.6M/SEC



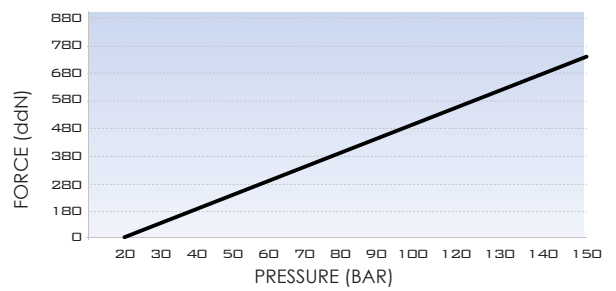
PED
97/23/EC



FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



2 x M8 Tapped Holes



Square Front Flange
45 SFF



Front Flange
45 FF



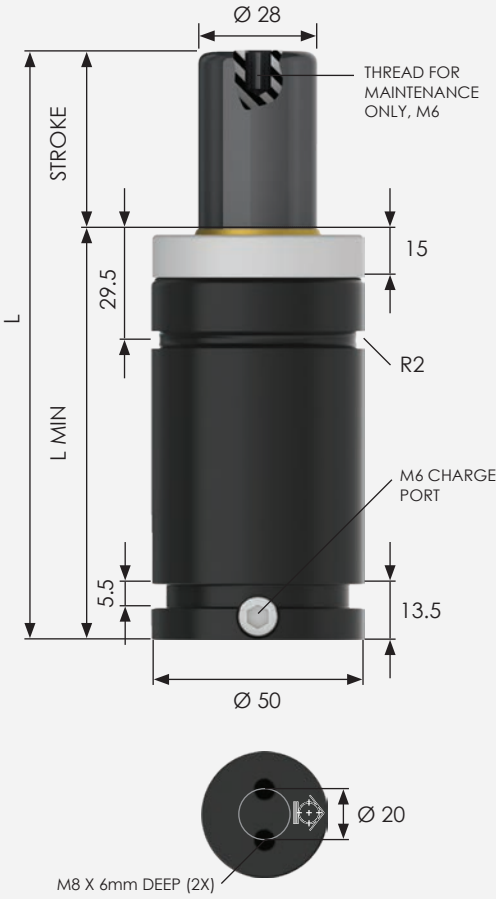
Square Flange
45 SF



Base Plate
45 BP



End Support
45 ES



MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX1000-025	1000	1630	75	101	0.05	0.59
HS-EX1000-038		1660	88	126	0.07	0.70
HS-EX1000-050		1680	100	151	0.09	0.79
HS-EX1000-063		1730	113	176	0.11	0.89
HS-EX1000-080		1700	130	210	0.14	1.03
HS-EX1000-100		1710	150	250	0.17	1.19
HS-EX1000-125		1715	175	300	0.21	1.39

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



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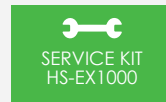
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

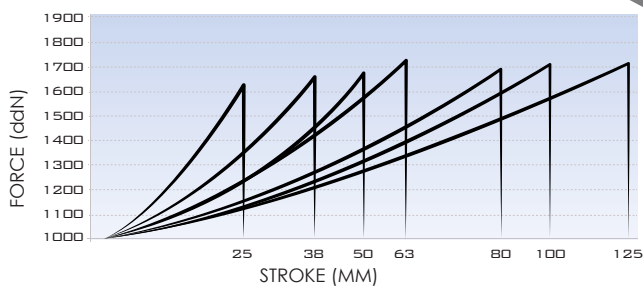
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC

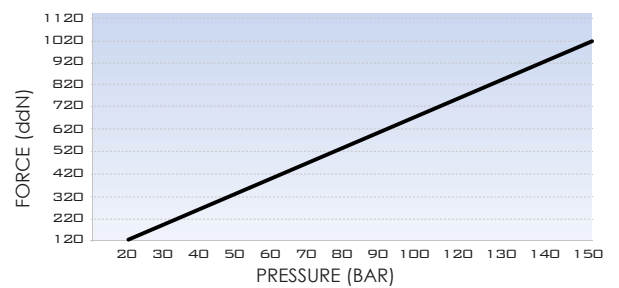


PED
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FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



2 x M8 Tapped Holes



Square Front Flange
50 SFF



Front Flange
50 FF



Square Flange
50 SF

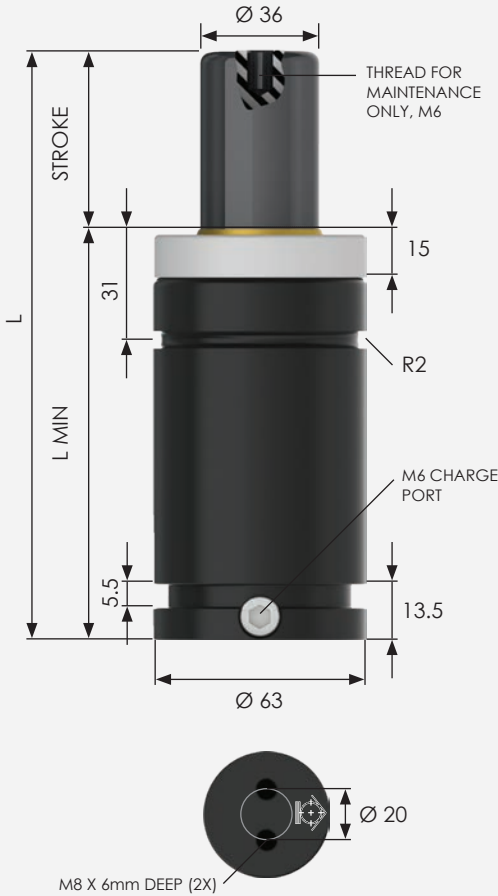


Base Plate
50 BP



End Support
50 ES / 50 HM





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX1500-025	1500	2430	81	107	0.08	1.03
HS-EX1500-038		2480	94	132	0.12	1.15
HS-EX1500-050		2510	106	157	0.15	1.28
HS-EX1500-063		2580	119	182	0.19	1.43
HS-EX1500-080		2550	136	216	0.24	1.63
HS-EX1500-100		2560	156	256	0.29	1.86
HS-EX1500-125		2580	181	306	0.36	2.15

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



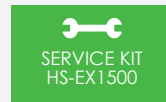
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

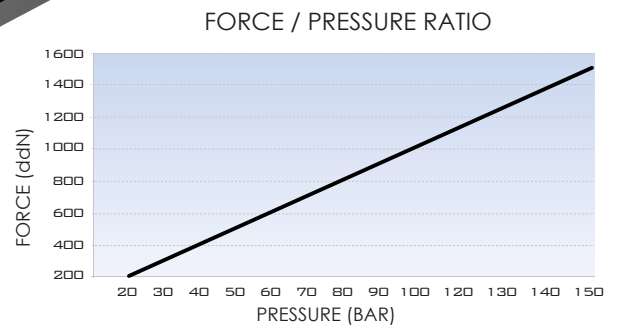
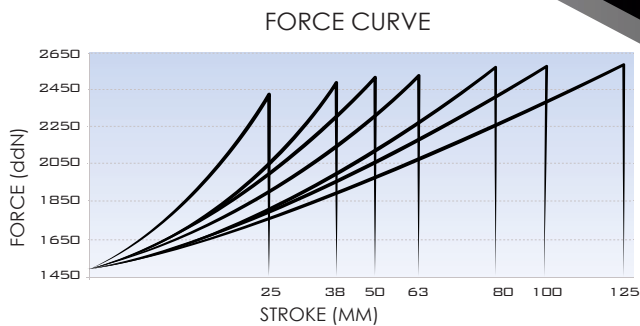
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC



SERVICE KIT HS-EX1500

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MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



2 x M8 Tapped Holes



Square Front Flange
63 SFF - 63 SFFA



Front Flange
63 FF

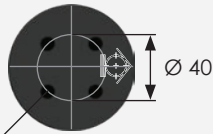
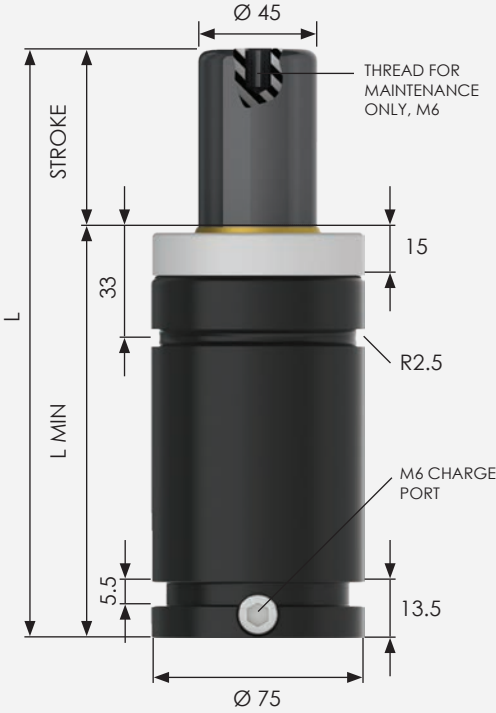


Square Flange
63 SF



Base Plate
63 BP





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX2400-025	2400	3570	82	108	0.13	1.45
HS-EX2400-038		3700	95	133	0.18	1.65
HS-EX2400-050		3780	107	158	0.23	1.84
HS-EX2400-063		3900	120	183	0.28	2.20
HS-EX2400-080		3880	137	217	0.35	2.32
HS-EX2400-100		3920	157	257	0.43	2.66
HS-EX2400-125		3960	182	307	0.54	3.05

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

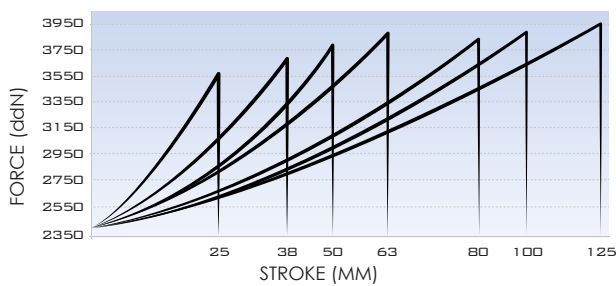
MAX. PISTON VELOCITY: 1.6M/SEC



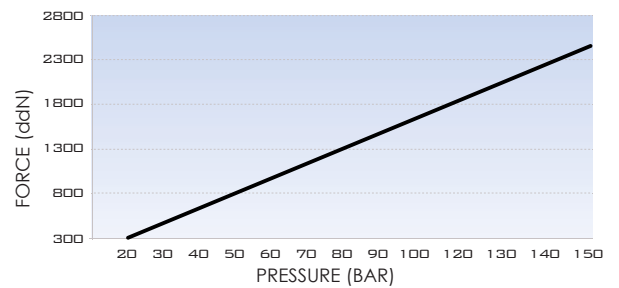
SERVICE KIT HS-EX2400

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FORCE CURVE



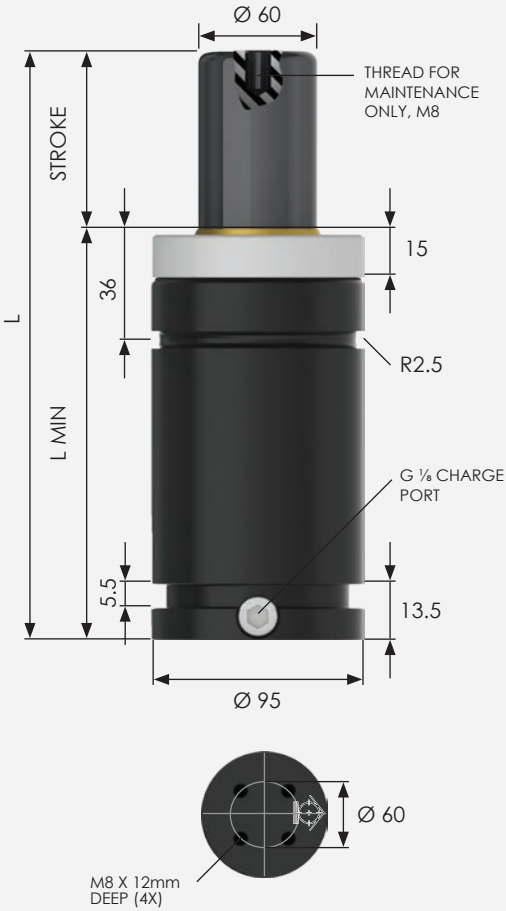
FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX4200-025	4200	6620	95	121	0.26	2.96
HS-EX4200-038		6620	108	146	0.32	3.28
HS-EX4200-050		6620	120	171	0.40	3.57
HS-EX4200-063		6620	133	196	0.49	4.10
HS-EX4200-080		6620	150	230	0.61	4.32
HS-EX4200-100		6620	170	270	0.74	4.81
HS-EX4200-125		6620	195	320	0.91	5.42

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

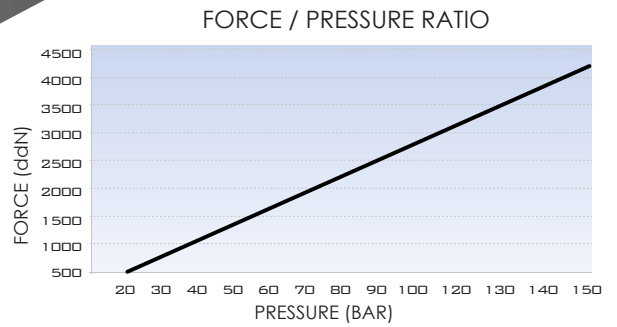
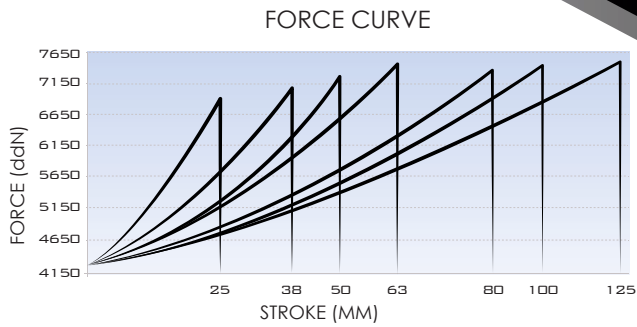
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC



SERVICE KIT HS-EX4200

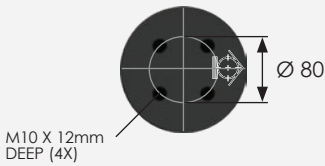
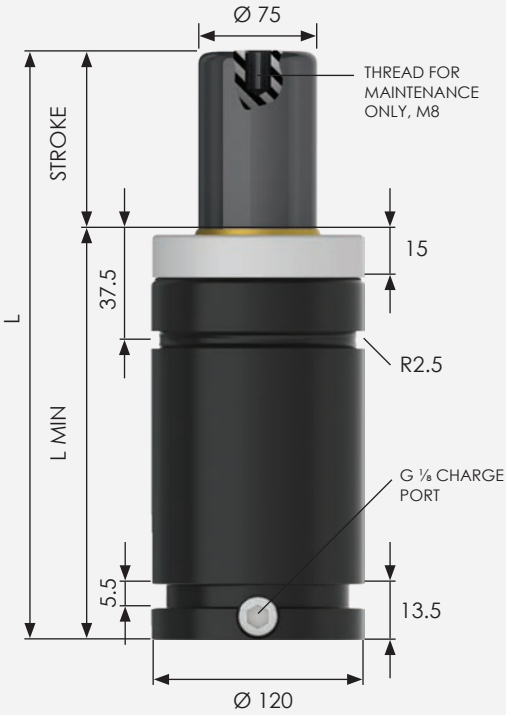
PED
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MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX6600-025	6630	7940	105	131	0.42	5.34
HS-EX6600-038		8340	118	156	0.56	5.84
HS-EX6600-050		8670	130	181	0.69	6.31
HS-EX6600-063		9030	143	206	0.83	6.81
HS-EX6600-080		9250	160	240	1.01	7.46
HS-EX6600-100		9530	180	280	1.23	8.23
HS-EX6600-125		9800	205	330	1.50	9.19

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

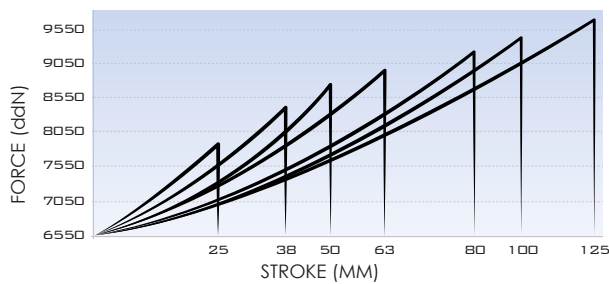
MAX. PISTON VELOCITY: 1.6M/SEC



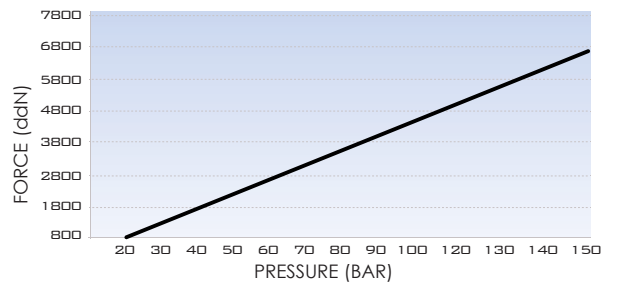
SERVICE KIT HS-EX6600

PED
97/23/EC

FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



4 x M10 Tapped Holes



Square Front Flange
120 SFF



Front Flange
120 FF



Square Flange
120 SF

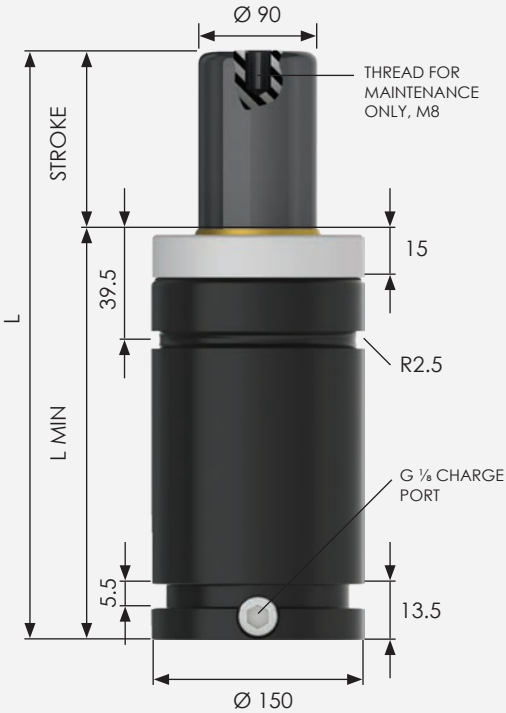


Base Plate
120 BP



End Support
120 ES / 120 HM





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-EX9500-025	9500	13930	115	141	0.58	10.23
HS-EX9500-038		14320	128	166	0.80	11.04
HS-EX9500-050		14800	140	191	0.99	11.79
HS-EX9500-063		15270	153	216	1.20	12.60
HS-EX9500-080		15470	170	250	1.47	13.66
HS-EX9500-100		15730	190	290	1.79	14.91
HS-EX9500-125		16000	215	340	2.20	16.47

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



PED
97/23/EC

Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

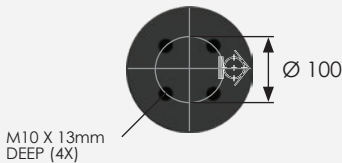
MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

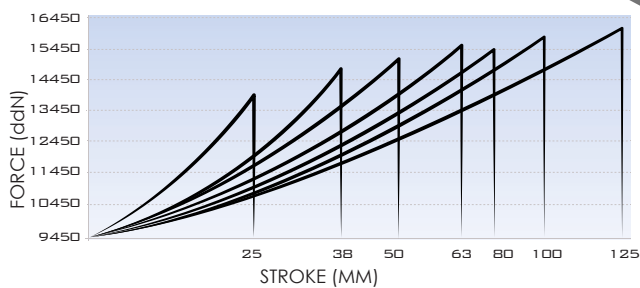
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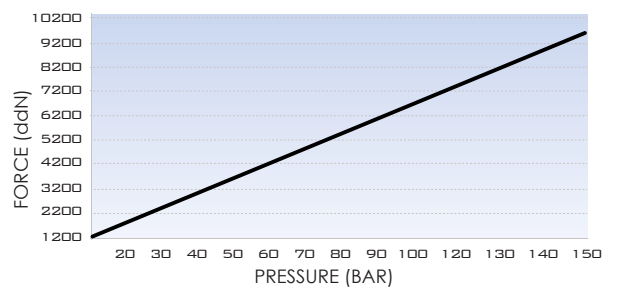
SERVICE KIT HS-EX9500



FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



The HS-G-EX range of gas springs for hot stamp applications has been developed based on the G-EX range of gas springs, but incorporates features that are specifically designed to overcome issues related to hot stamping.

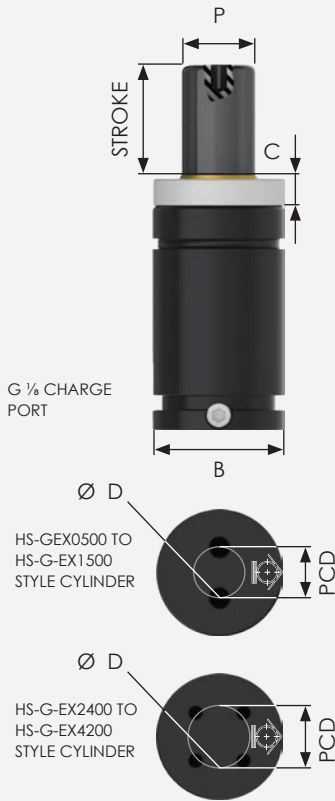
Unique Piston Rod Treatment

- Prevents corrosion and pitting of the sealing surface.
- Reduces adhesion of abrasive material.

Special Tri Wiper Design

- Incorporates a metal scraper for removal of highly adhesive & abrasive metal debris.
- Secondary back up rubber wiper to remove contamination.

Compatible with both Cnomo and Micro hose systems.



SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
HS-G-EX0500	20/25	M6 X 2	16mm
HS-G-EX0750	20	M8 X 2	16mm
HS-G-EX1000	20	M8 X 2	16mm
HS-G-EX1500	20	M8 X 2	16mm
HS-G-EX2400	40	M8 X 4	16mm
HS-G-EX4200	60	M8 X 4	16mm

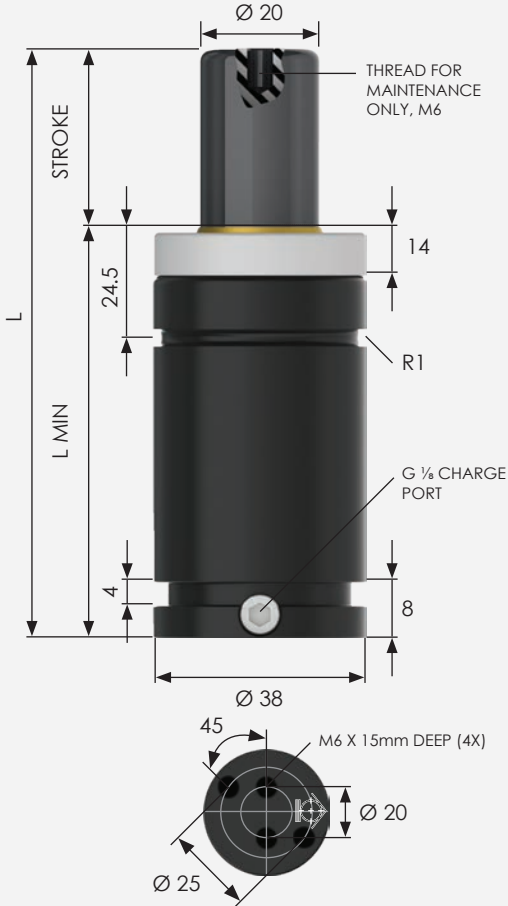


Patent Pending

USE ONLY NITROGEN		
MAX. PRESSURE: 150 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC



MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM		OVERHAUL
							MICRO	CNOMO	
HS-G-EX0500	20	38	500	25 - 125	14	TH, FF, SF, SFF, ES	✓	✓	✓
HS-G-EX0750	25	45	750	25 - 125	14	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-G-EX1000	28	50	1000	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-G-EX1500	36	63	1500	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-G-EX2400	45	75	2400	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-G-EX4200	60	95	4200	25 - 125	15	TH, FF, SF, SFF, ES, BP	✓	✓	✓



MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-G-EX0500-025	500	779	77	103	0.03	0.39
HS-G-EX0500-038		795	90	128	0.04	0.44
HS-G-EX0500-050		803	102	153	0.05	0.49
HS-G-EX0500-063		825	115	178	0.06	0.54
HS-G-EX0500-080		814	132	212	0.08	0.60
HS-G-EX0500-100		817	152	252	0.10	0.68
HS-G-EX0500-125		821	177	302	0.12	0.77

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



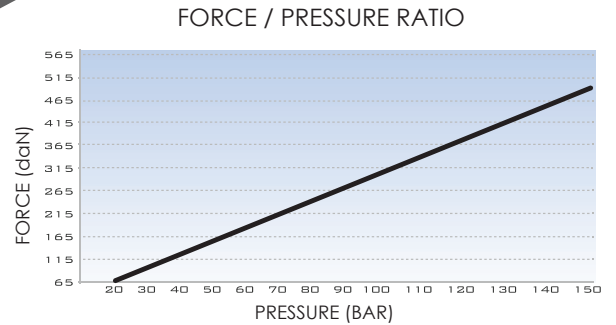
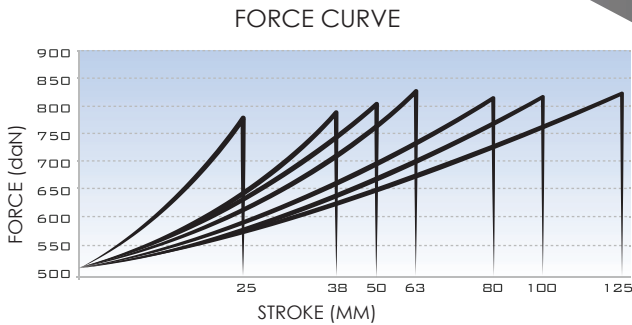
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC
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SERVICE KIT HS-G-EX0500

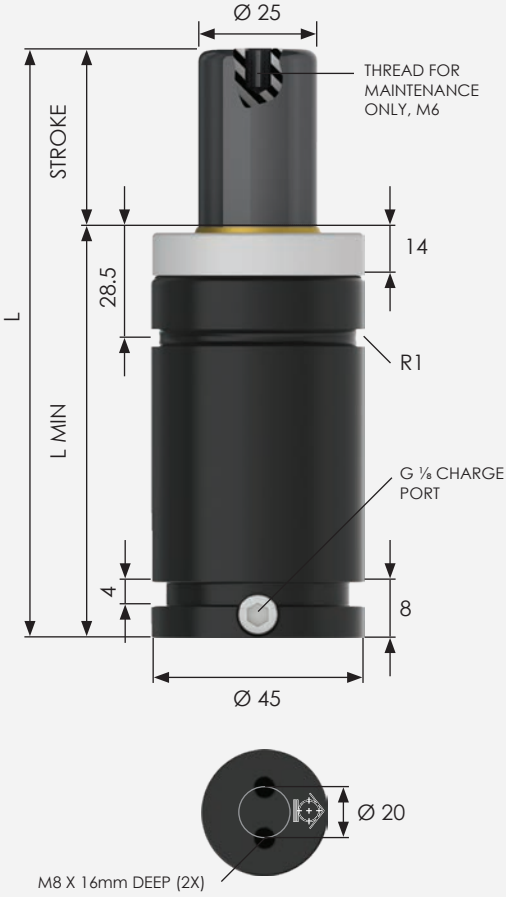
PED
97/23/EC



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-G-EX0750-025	0750	1145	89	110	0.04	0.45
HS-G-EX0750-038		1170	97	135	0.05	0.53
HS-G-EX0750-050		1180	109	160	0.07	0.61
HS-G-EX0750-063		1220	122	185	0.09	0.69
HS-G-EX0750-080		1210	139	219	0.11	0.80
HS-G-EX0750-100		1215	159	259	0.13	0.93
HS-G-EX0750-125		1220	184	209	0.17	1.09

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

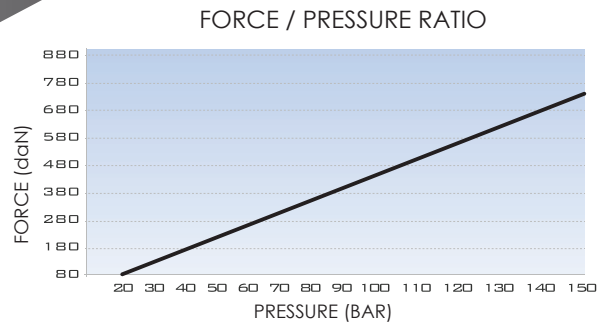
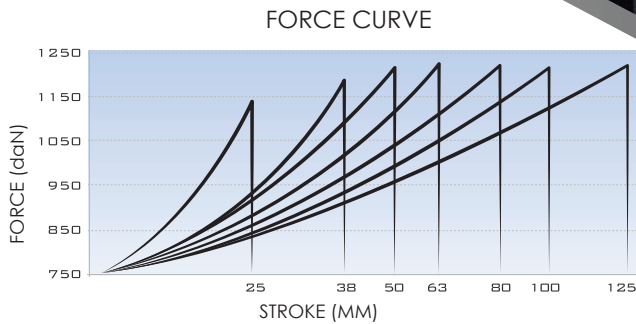
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC



SERVICE KIT HS-G-EX0750

PED
97/23/EC



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



2 x M8 Tapped Holes



Square Front Flange
45 SFF



Front Flange
45 FF



Square Flange
45 SF

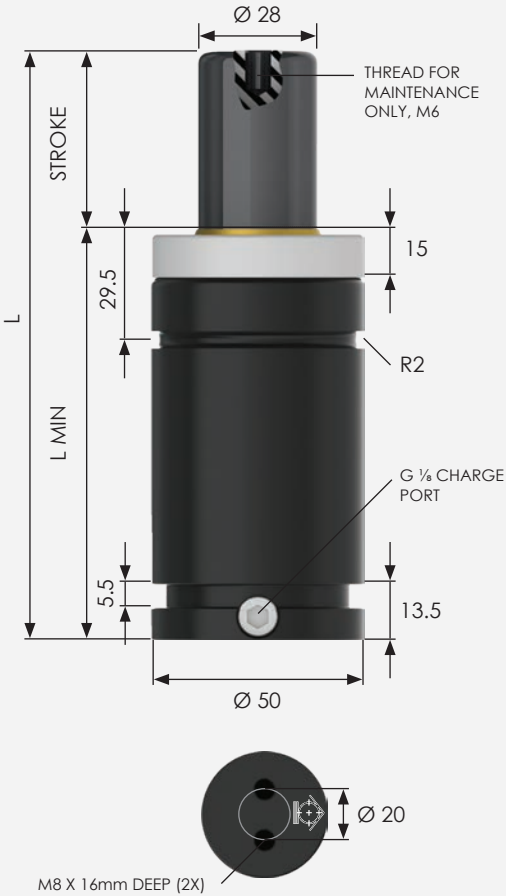


Base Plate
45 BP



End Support
45 ES





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-G-EX1000-025	1000	1630	89	115	0.05	0.59
HS-G-EX1000-038		1660	102	140	0.07	0.70
HS-G-EX1000-050		1680	114	165	0.09	0.79
HS-G-EX1000-063		1730	127	190	0.11	0.89
HS-G-EX1000-080		1700	144	224	0.14	1.03
HS-G-EX1000-100		1710	164	264	0.17	1.19
HS-G-EX1000-125		1715	189	314	0.21	1.39

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

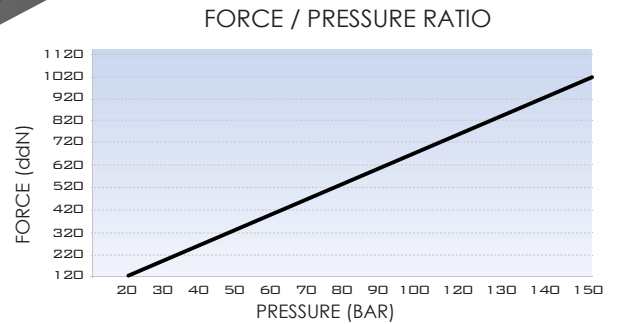
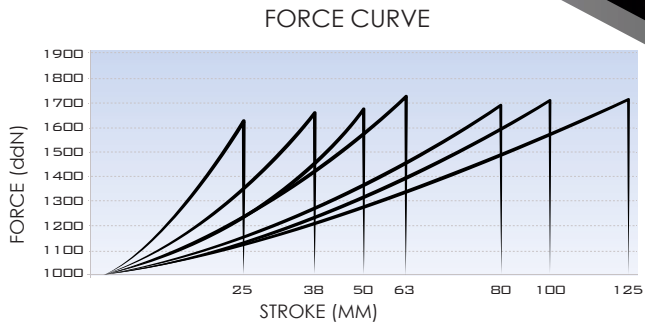
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC



SERVICE KIT HS-G-EX1000

PED
97/23/EC



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



2 x M8 Tapped Holes



Square Front Flange 50 SFF



Front Flange 50 FF



Square Flange 50 SF

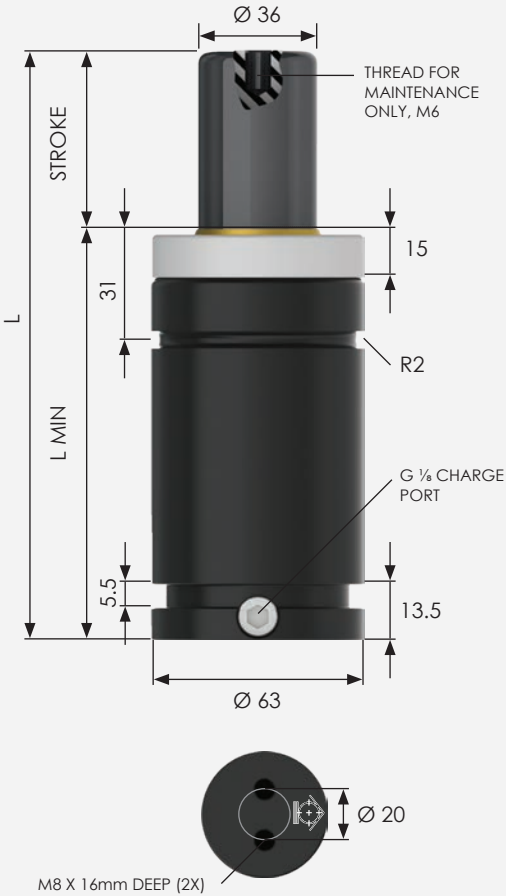


Base Plate 50 BP



End Support 50 ES / 50 HM





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-G-EX1500-025	1500	2430	89	115	0.08	1.03
HS-G-EX1500-038		2480	102	140	0.12	1.15
HS-G-EX1500-050		2510	114	165	0.15	1.28
HS-G-EX1500-063		2580	127	190	0.19	1.43
HS-G-EX1500-080		2550	144	224	0.24	1.63
HS-G-EX1500-100		2560	164	264	0.29	1.86
HS-G-EX1500-125		2580	189	314	0.36	2.15

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

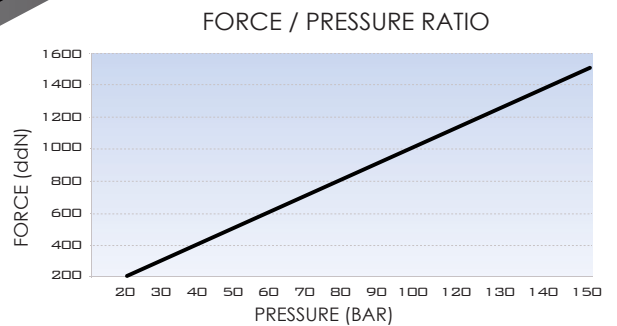
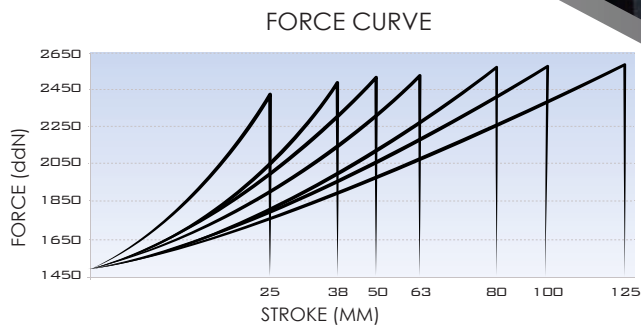
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC



SERVICE KIT HS-G-EX1500

PED
97/23/EC



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



2 x M8 Tapped Holes



Square Front Flange
63 SFF - 63 SFFA



Front Flange
63 FF

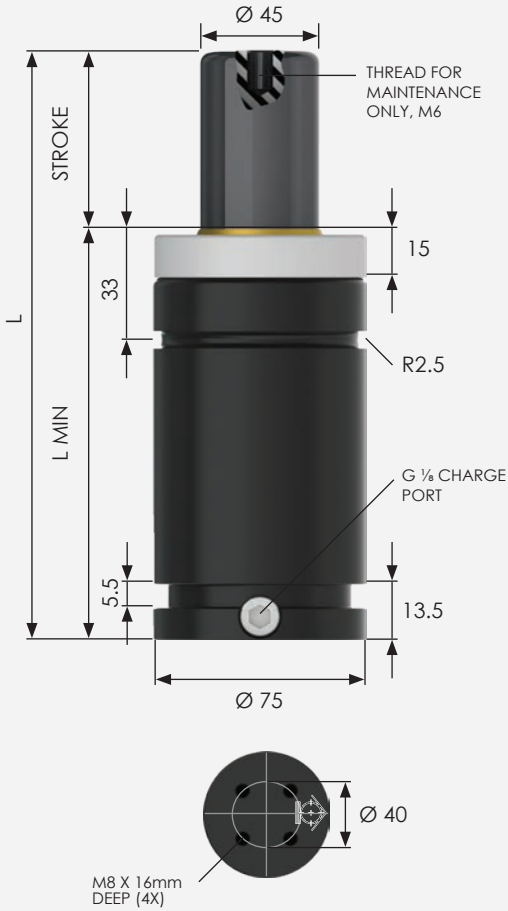


Square Flange
63 SF



Base Plate
63 BP





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-G-EX2400-025	2400	3570	96	122	0.13	1.45
HS-G-EX2400-038		3700	109	147	0.18	1.65
HS-G-EX2400-050		3780	121	172	0.23	1.84
HS-G-EX2400-063		3900	134	197	0.28	2.20
HS-G-EX2400-080		3880	151	231	0.35	2.32
HS-G-EX2400-100		3920	171	271	0.43	2.66
HS-G-EX2400-125		3960	196	321	0.54	3.05

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

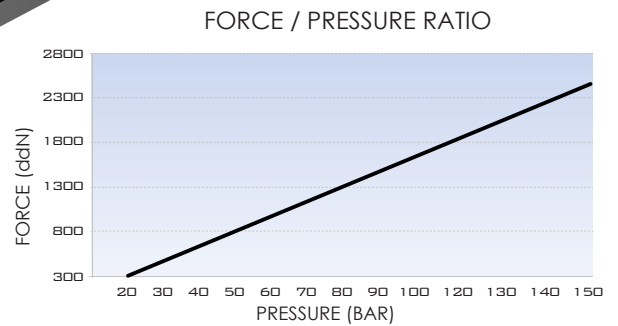
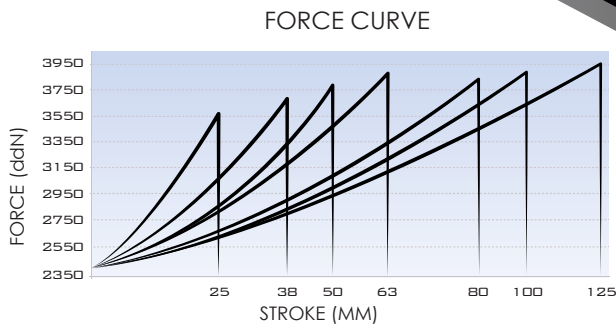
MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC

SERVICE KIT
HS-G-EX2400

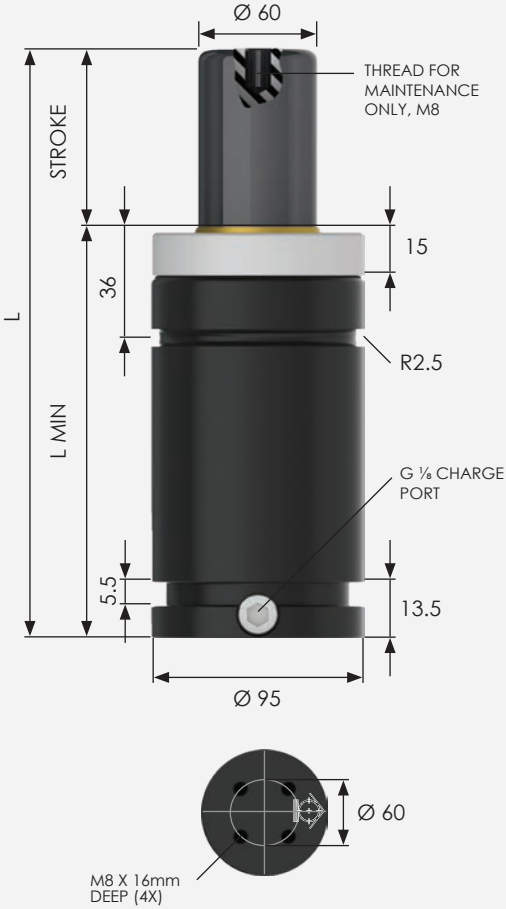
PED
97/23/EC



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-G-EX4200-025	4200	6620	95	125	0.26	2.96
HS-G-EX4200-038		6620	112	150	0.32	3.28
HS-G-EX4200-050		6620	124	175	0.40	3.57
HS-G-EX4200-063		6620	137	200	0.49	4.10
HS-G-EX4200-080		6620	154	234	0.61	4.32
HS-G-EX4200-100		6620	174	274	0.74	4.81
HS-G-EX4200-125		6620	199	324	0.91	5.42

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



PED
97/23/EC

Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

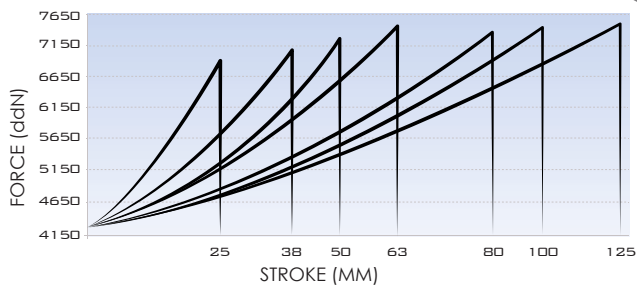
MAX. PISTON VELOCITY: 1.6M/SEC



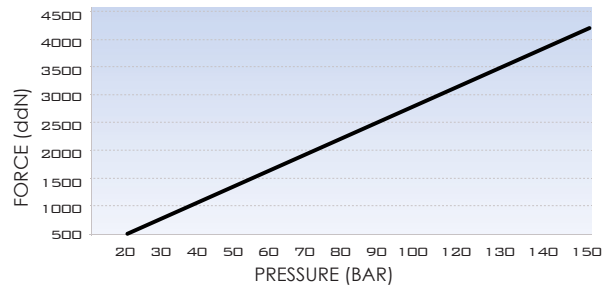
SERVICE KIT
HS-G-EX4200



FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



The HS-NG range of gas springs for hot stamp applications has been developed based on the ISO11901 range of gas springs, but incorporates features that are specifically designed to overcome issues related to hot stamping.

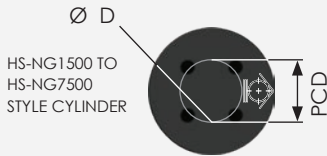
Unique Piston Rod Treatment

- Prevents corrosion and pitting of the sealing surface.
- Reduces adhesion of abrasive material.

Special Double Wiper Design

- Incorporates a metal scraper for removal of highly adhesive & abrasive metal debris.
- Secondary back up rubber wiper to remove contamination.

Compatible with both Cnomo and Micro hose systems.



SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
HS-NG1500	40	M8 X 4	13mm
HS-NG3000	60	M8 X 4	13mm
HS-NG5000	80	M10 X 4	13mm
HS-NG7500	100	M10 X 4	13mm



Patent Pending

USE ONLY NITROGEN

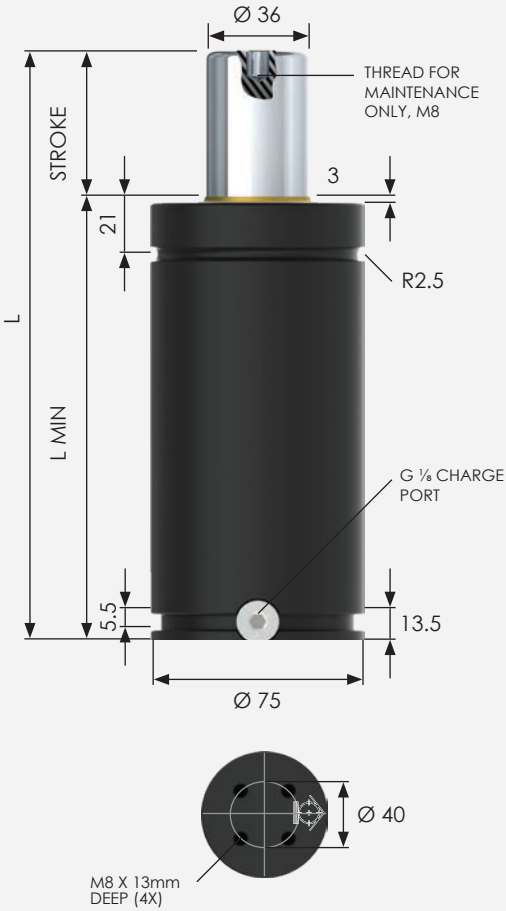
MAX. PRESSURE: 150 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC
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SERVICE KIT AVAILABLE

PED
97/23/EC



MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM		OVERHAUL
							MICRO	CNOMO	
HS-NG1500	36	75	1500	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-NG3000	50	95	3000	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-NG5000	65	120	5000	25 - 300	3	TH, FF, SF, SFF, ES, BP	✓	✓	✓
HS-NG7500	80	150	7500	25 - 300	3	TH, FF, SF, SFF, BP	✓	✓	✓



MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-NG1500-025	1500	2040	135	160	0.10	3.65
HS-NG1500-038		2060	148.1	186.2	0.15	3.89
HS-NG1500-050		2090	160	210	0.18	4.11
HS-NG1500-063		2130	173.5	237	0.22	4.35
HS-NG1500-080		2115	190	270	0.28	4.66
HS-NG1500-100		2140	210	310	0.34	5.02
HS-NG1500-125		2160	235	360	0.42	5.48
HS-NG1500-160		2165	270	430	0.53	6.12
HS-NG1500-200		2160	310	510	0.68	6.90
HS-NG1500-250		2180	360	610	0.81	7.80
HS-NG1500-300		2200	410	710	0.96	8.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



PED
97/23/EC

Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

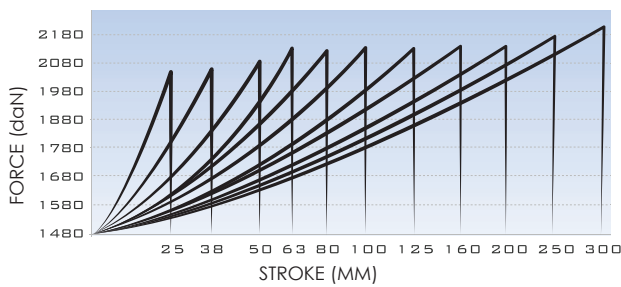
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC

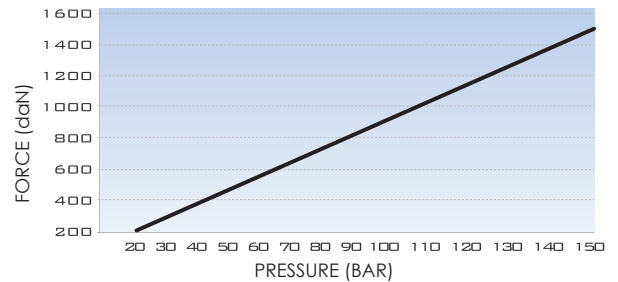
SERVICE KIT
HS-GEX0750



FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



4 x M8 Tapped Holes



Square Front Flange
75 SFF



Front Flange
75 FF



Square Flange
75 SF

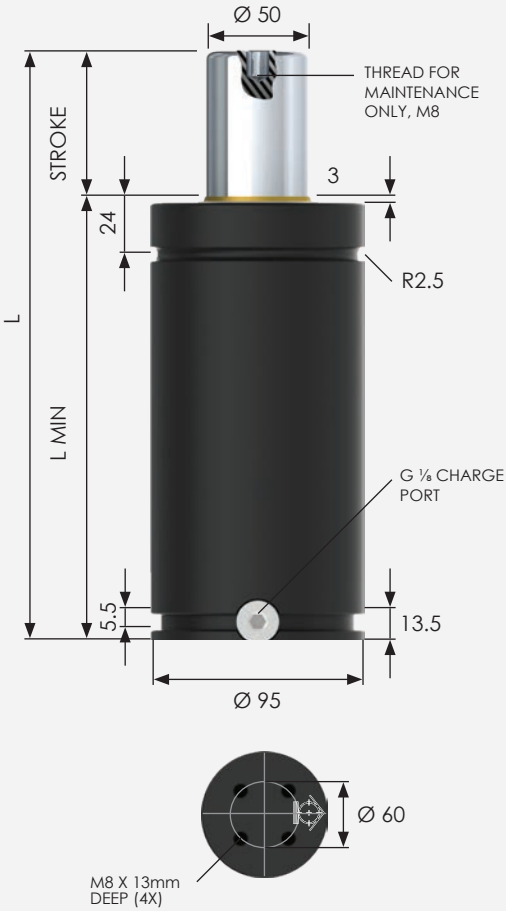


Base Plate
75 BP



End Support
75 ES / 75 HM





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-NG3000-025	3000	4140	145	170	0.20	6.45
HS-NG3000-038		4210	158.1	196.2	0.26	6.87
HS-NG3000-050		4320	170	220	0.32	7.25
HS-NG3000-063		4480	183.5	247	0.38	7.67
HS-NG3000-080		4500	200	280	0.46	8.20
HS-NG3000-100		4570	220	320	0.56	8.83
HS-NG3000-125		4570	245	370	0.69	9.63
HS-NG3000-160		4580	280	440	0.87	10.74
HS-NG3000-200		4560	320	520	1.07	12.20
HS-NG3000-250		4540	370	620	1.32	13.70
HS-NG3000-300		4590	420	720	1.57	15.30

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

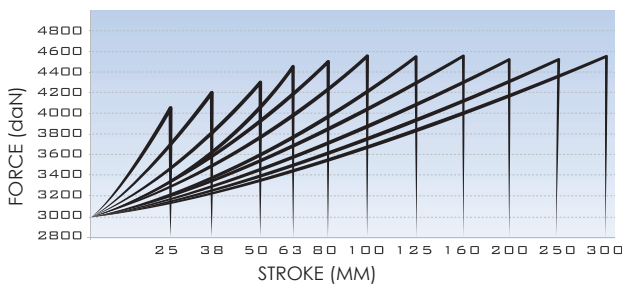
MAX. PISTON VELOCITY: 1.6M/SEC



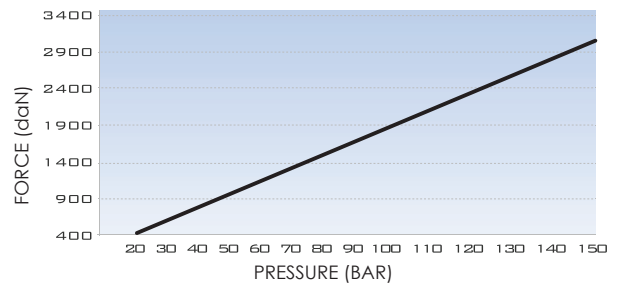
SERVICE KIT HS-GEX0750

PED
97/23/EC

FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



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

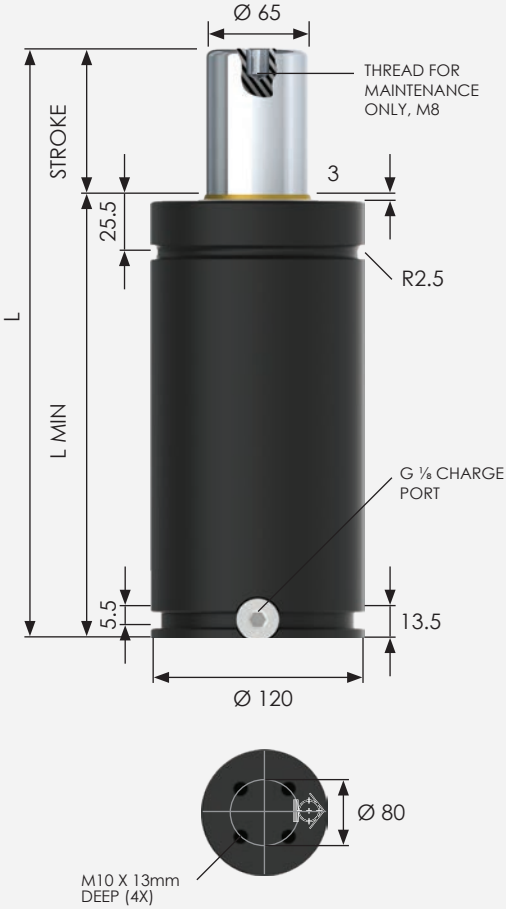


Designed & Manufactured in the UK

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Distributed & Supported Worldwide





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-NG5000-025	5000	6900	165	190	0.32	12.40
HS-NG5000-038		7010	178.1	216.2	0.42	13.10
HS-NG5000-050		7210	190	240	0.51	13.70
HS-NG5000-063		7450	203.5	267	0.60	14.40
HS-NG5000-080		7510	220	300	0.73	15.30
HS-NG5000-100		7550	240	340	0.89	16.40
HS-NG5000-125		7560	265	390	1.09	17.70
HS-NG5000-160		7560	300	460	1.36	19.60
HS-NG5000-200		7590	340	540	1.68	20.70
HS-NG5000-250		7560	390	640	2.07	22.40
HS-NG5000-300		7540	440	740	2.46	24.66

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

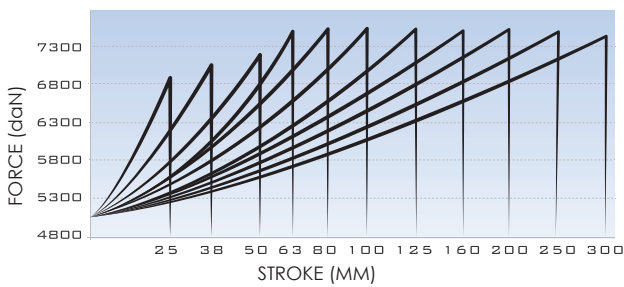
MAX. PISTON VELOCITY: 1.6M/SEC



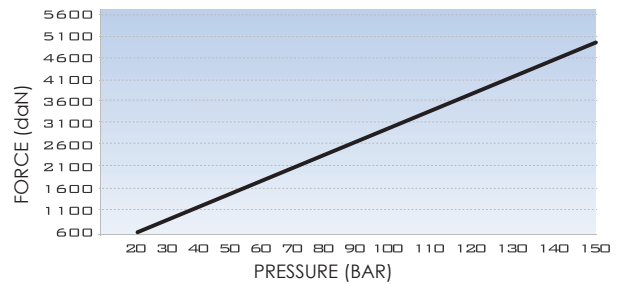
SERVICE KIT HS-GEX0750

PED
97/23/EC

FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



4 x M10 Tapped Holes



Square Front Flange
120 SFF



Front Flange
120 FF



Square Flange
120 SF

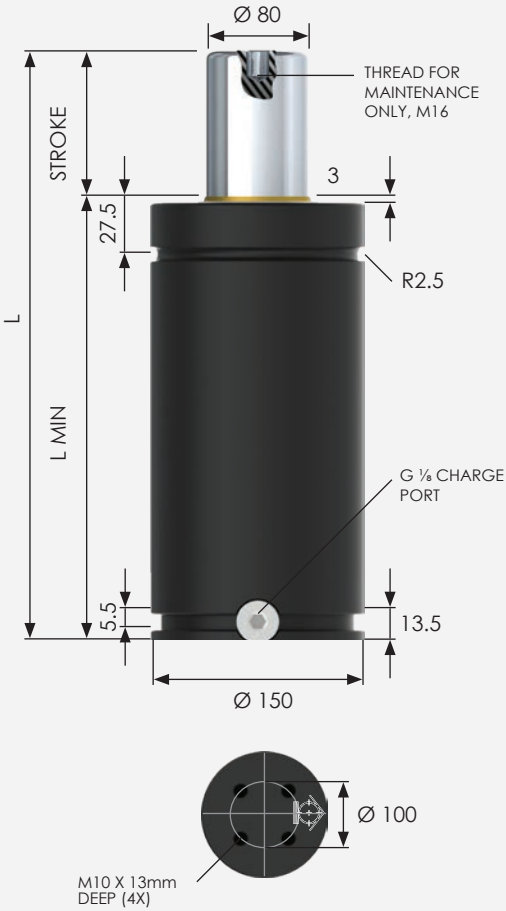


Base Plate
120 BP



End Support
120 ES / 120 HM





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-NG7500-025	7500	10100	180	205	0.51	20.30
HS-NG7500-038		10500	193.1	231.2	0.67	21.40
HS-NG7500-050		10500	205	255	0.81	22.40
HS-NG7500-063		10550	218.5	282	0.98	23.50
HS-NG7500-080		10550	235	315	1.18	24.80
HS-NG7500-100		10550	255	355	1.43	26.50
HS-NG7500-125		10550	280	405	1.74	28.50
HS-NG7500-160		10530	315	475	2.17	31.40
HS-NG7500-200		10520	355	555	2.66	34.70
HS-NG7500-250		10590	405	655	3.27	38.80
HS-NG7500-300		10560	455	755	3.88	42.90

SPECIAL STROKE SIZES AVAILABLE UPON REQUEST



Patent Pending



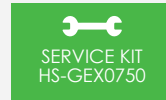
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

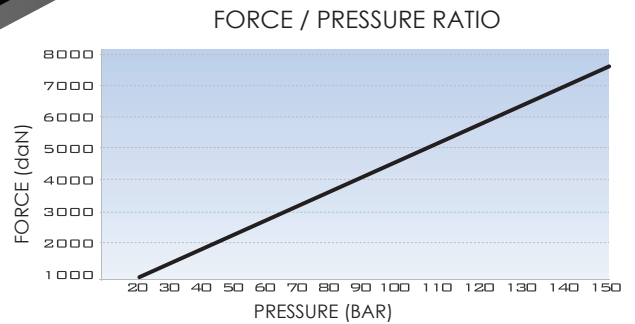
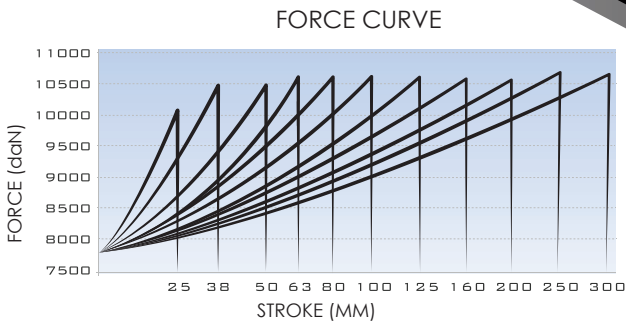
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC



SERVICE KIT HS-GEX0750

PED
97/23/EC



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



4 x M10 Tapped Holes



Square Front Flange 150 SFF



Front Flange 150 FF



Square Flange 150 SF



Base Plate 150 BP

The HS-MX range of gas springs for hot stamp applications has been developed based on the EX range of gas springs, but incorporates features that are specifically designed to overcome issues related to hot stamping.

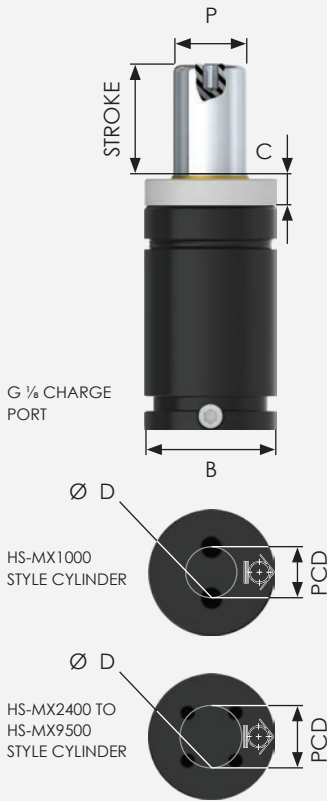
Unique Piston Rod Treatment

- Prevents corrosion and pitting of the sealing surface.
- Reduces adhesion of abrasive material.

Special Tri Wiper Design

- Incorporates a metal scraper for removal of highly adhesive & abrasive metal debris.
- Secondary back up rubber wiper to remove contamination.

Compatible with both Cnomo and Micro hose systems.



SPRING TYPE	PCD	Ø D	TAPPED HOLE DEPTH
HS-MX1000	20	M8 X 2	12.5mm
HS-MX2400	40	M8 X 4	13mm
HS-MX4200	60	M8 X 4	13mm
HS-MX6600	80	M10 X 4	13mm
HS-MX9500	40	M10 X 4	13mm

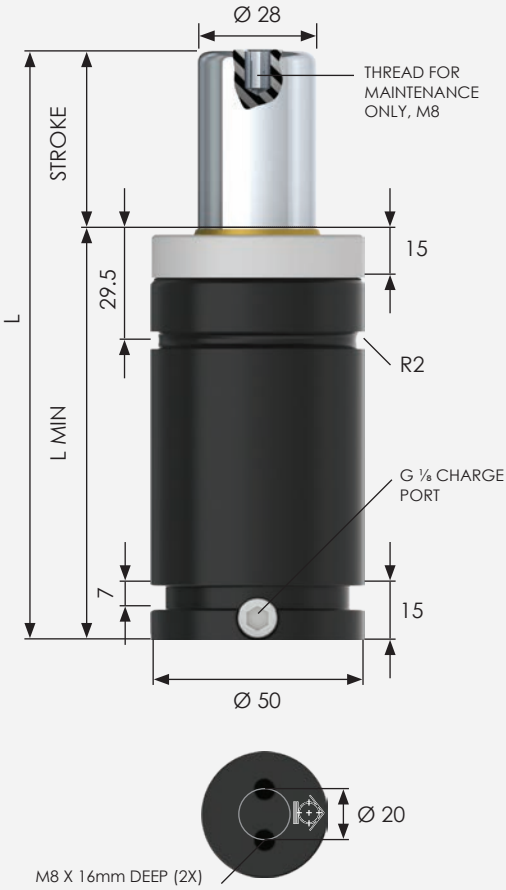


Patent Pending

USE ONLY NITROGEN		
MAX. PRESSURE: 150 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC



MODEL	P	B	INITIAL FORCE (daN)	STROKE RANGE	C	MOUNTING OPTIONS	PIPE SYSTEM		OVERHAUL
							MICRO	CNOMO	
HS-MX1000	28	50	1000	13 - 300	15	TH, BP, FF, SFF, SF, ES	✓	✓	✓
HS-MX2400	45	75	2400	25 - 300	15	TH, BP, FF, SFF, SF, ES	✓	✓	✓
HS-MX4200	60	95	4200	25 - 300	15	TH, BP, FF, SFF, SF, ES	✓	✓	✓
HS-MX6600	75	120	6600	25 - 300	15	TH, BP, FF, SFF, SF, ES	✓	✓	✓
HS-MX9500	90	150	9500	25 - 300	15	TH, BP, FF, SFF, SF	✓	✓	✓



MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-MX1000-025	920	1210	120	145	0.07	1.27
HS-MX1000-038		1280	133	171	0.09	1.32
HS-MX1000-050		1320	145	195	0.11	1.37
HS-MX1000-063		1350	158	221	0.13	1.58
HS-MX1000-075		1370	170	245	0.15	1.71
HS-MX1000-080		1380	175	255	0.16	1.73
HS-MX1000-100		1410	195	295	0.19	1.90
HS-MX1000-125		1430	220	345	0.23	2.11
HS-MX1000-150		1450	245	395	0.27	2.32
HS-MX1000-160		1450	255	415	0.28	2.40
HS-MX1000-175		1460	270	445	0.30	2.53
HS-MX1000-200		1470	295	495	0.34	2.74
HS-MX1000-250		1480	345	595	0.42	2.96
HS-MX1000-300		1490	395	695	0.49	3.58



SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

Patent Pending



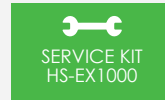
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

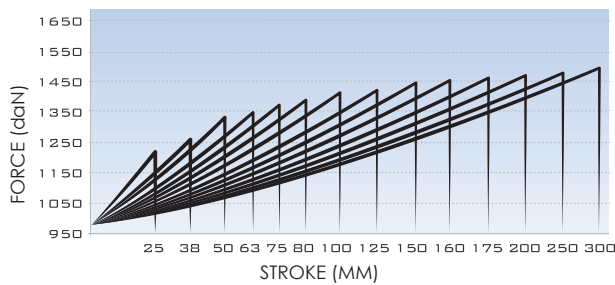
MAX. PISTON VELOCITY: 1.6M/SEC



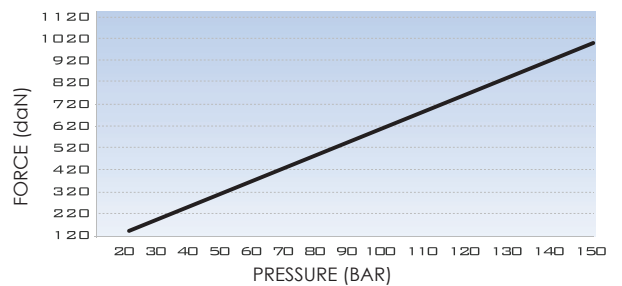
SERVICE KIT HS-EX1000

PED
97/23/EC

FORCE CURVE



FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.



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

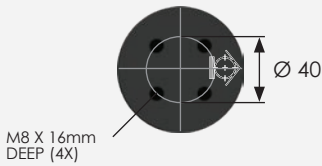
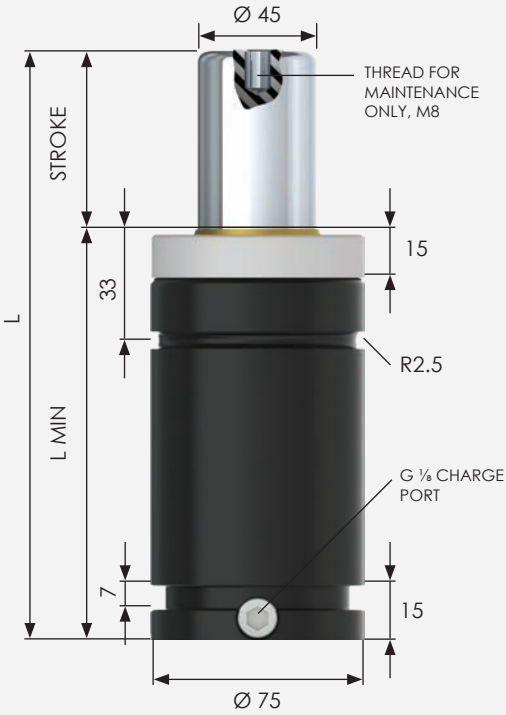


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MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-MX2400-025	2400	3710	135	160	0.23	3.10
HS-MX2400-038		3760	148	186	0.28	3.30
HS-MX2400-050		3790	160	210	0.33	3.50
HS-MX2400-063		3810	173	236	0.38	3.70
HS-MX2400-075		3830	185	260	0.43	3.89
HS-MX2400-080		3830	190	270	0.45	3.97
HS-MX2400-100		3850	210	310	0.53	4.29
HS-MX2400-125		3870	235	360	0.63	4.68
HS-MX2400-150		3880	260	410	0.73	5.07
HS-MX2400-160		3880	270	430	0.77	5.23
HS-MX2400-175		3890	285	460	0.83	5.47
HS-MX2400-200		3890	310	510	0.93	5.86
HS-MX2400-250		3900	360	610	1.17	6.65
HS-MX2400-300		3910	410	710	1.33	7.44



SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

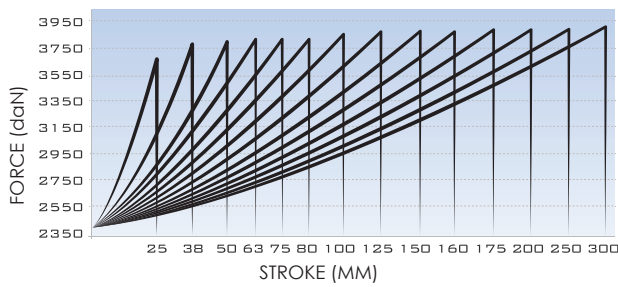
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC

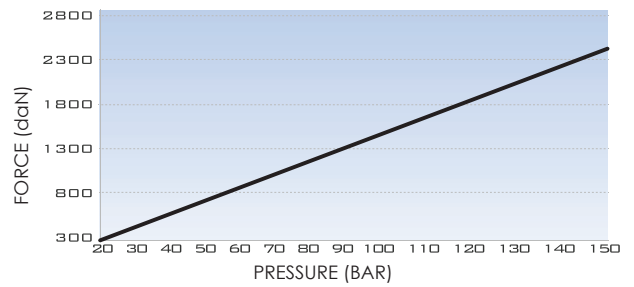
SERVICE KIT HS-EX2400

PED
97/23/EC

FORCE CURVE



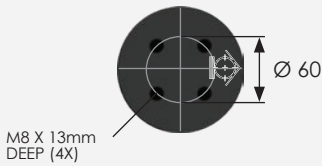
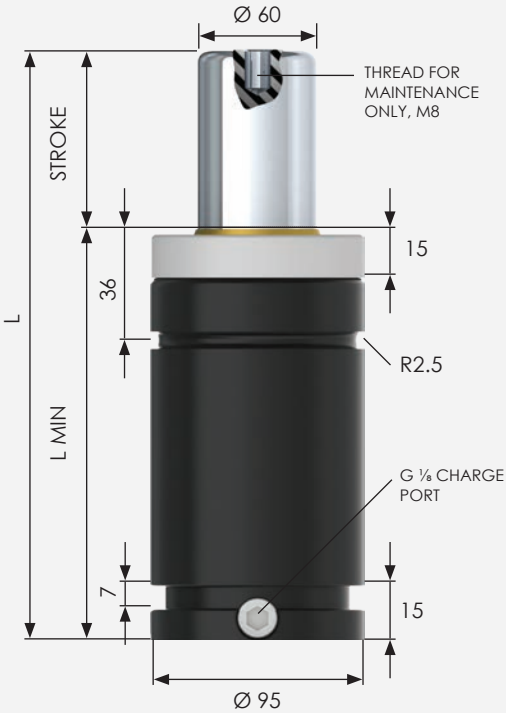
FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-MX4200-025	4200	5210	145	170	0.43	5.08
HS-MX4200-038		5510	158	196	0.52	5.41
HS-MX4200-050		5720	170	220	0.60	5.71
HS-MX4200-063		5900	183	246	0.68	6.05
HS-MX4200-075		6030	195	270	0.76	6.35
HS-MX4200-080		6080	200	280	0.80	6.48
HS-MX4200-100		6250	220	320	0.93	6.99
HS-MX4200-125		6400	245	370	1.10	7.63
HS-MX4200-150		6510	270	420	1.27	8.27
HS-MX4200-160		6550	280	440	1.33	8.53
HS-MX4200-175		6600	295	470	1.43	8.91
HS-MX4200-200		6680	320	520	1.60	9.55
HS-MX4200-250		6790	370	620	1.93	11.08
HS-MX4200-300		6870	420	720	2.27	12.11



SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

Patent Pending



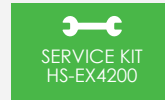
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

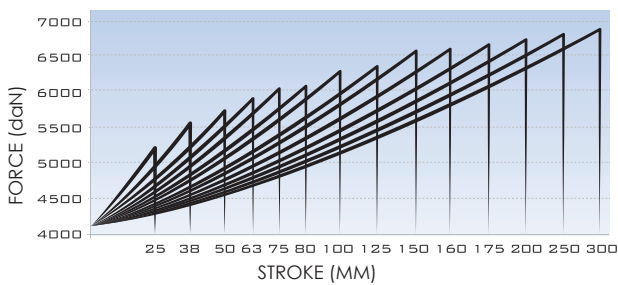
MAX. PISTON VELOCITY: 1.6M/SEC



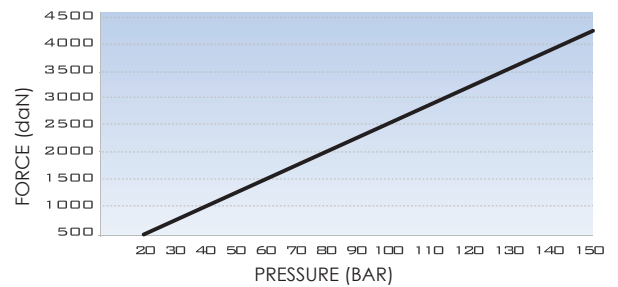
SERVICE KIT HS-EX4200

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97/23/EC

FORCE CURVE



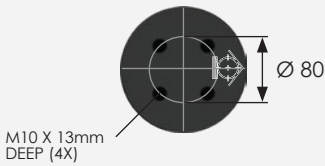
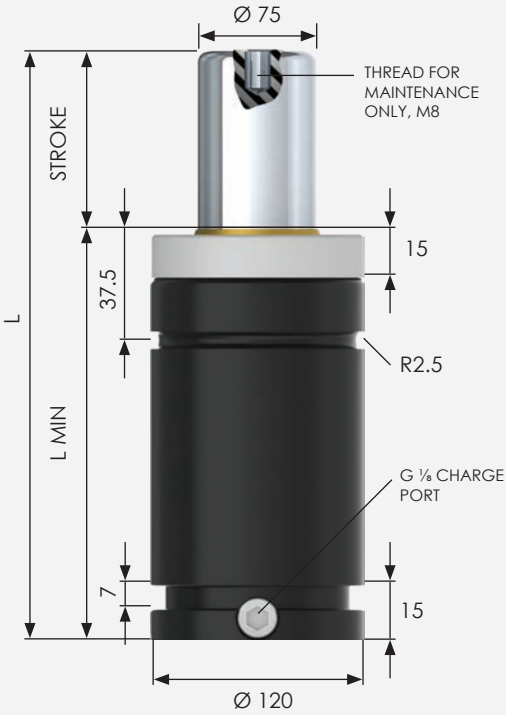
FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-MX6600-025	6630	7950	165	190	0.73	9.28
HS-MX6600-038		8390	178	216	0.87	9.81
HS-MX6600-050		8700	190	240	1.00	10.30
HS-MX6600-063		8970	203	266	1.13	10.83
HS-MX6600-075		9180	215	290	1.26	11.32
HS-MX6600-080		9260	220	300	1.31	11.52
HS-MX6600-100		9510	240	340	1.53	12.33
HS-MX6600-125		9760	265	390	1.79	13.35
HS-MX6600-150		9950	290	440	2.05	14.36
HS-MX6600-160		10010	300	460	2.16	14.77
HS-MX6600-175		10100	315	490	2.36	15.38
HS-MX6600-200		10220	340	540	2.58	16.40
HS-MX6600-250		10400	390	640	3.11	18.43
HS-MX6600-300		10530	440	740	3.64	20.46



SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

Patent Pending



Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

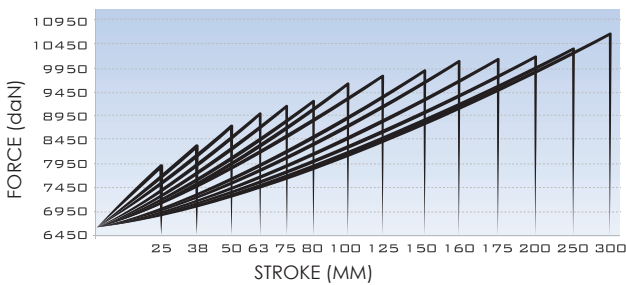
MIN. PRESSURE: 20 BAR

MAX. PISTON VELOCITY: 1.6M/SEC

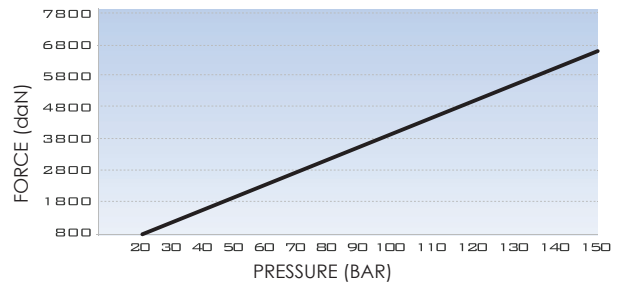
SERVICE KIT HS-EX6600

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97/23/EC

FORCE CURVE



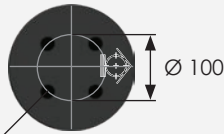
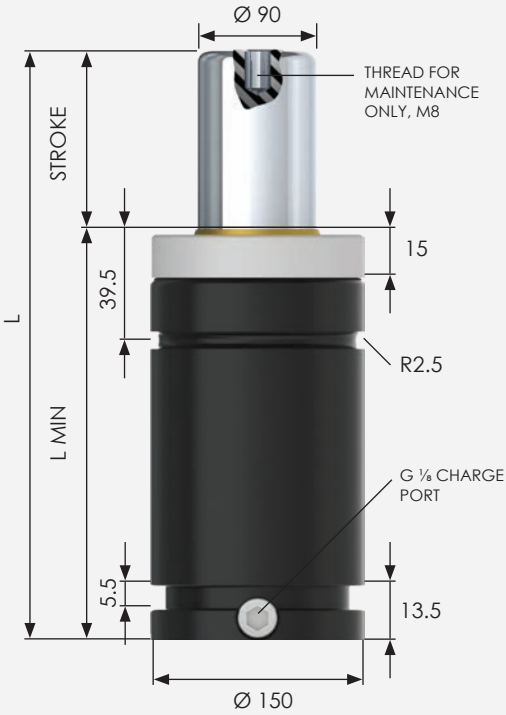
FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

All dimensions are mm, unless otherwise stated.





MODEL	SPRING FORCE (daN)		L		GAS VOL. (L)	WEIGHT (KG)
	INITIAL	MAXIMUM	MIN	L		
HS-MX9500-025	9500	11320	180	205	1.09	16.79
HS-MX9500-038		11900	193	231	1.30	17.70
HS-MX9500-050		12330	205	255	1.49	18.48
HS-MX9500-063		12700	218	281	1.69	19.32
HS-MX9500-075		12970	230	305	1.88	20.10
HS-MX9500-080		13080	235	315	1.96	20.42
HS-MX9500-100		13430	255	355	2.28	21.72
HS-MX9500-125		13760	280	405	2.67	23.35
HS-MX9500-150		14020	305	455	3.07	24.97
HS-MX9500-160		14100	315	475	3.23	25.62
HS-MX9500-175		14220	330	505	3.47	26.59
HS-MX9500-200		14380	355	555	3.86	28.21
HS-MX9500-250		14630	405	655	4.65	31.46
HS-MX9500-300		14820	455	755	5.44	34.70



SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

Patent Pending



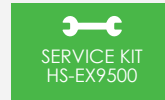
Please note: Do not use 100% of stroke, please leave a minimum of 5mm or 10%

USE ONLY NITROGEN

MAX. PRESSURE: 150 BAR

MIN. PRESSURE: 20 BAR

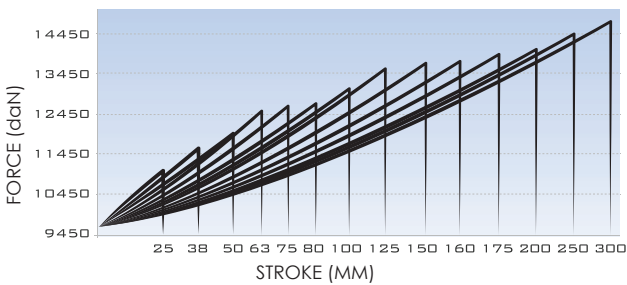
MAX. PISTON VELOCITY: 1.6M/SEC



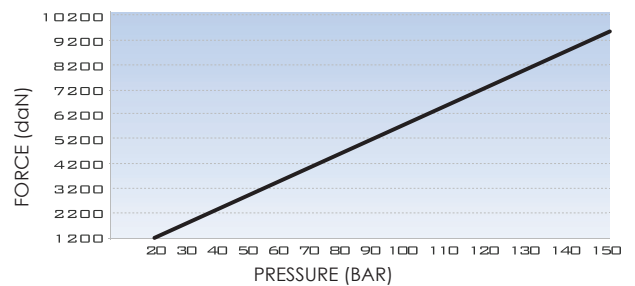
SERVICE KIT HS-EX9500

PED
97/23/EC

FORCE CURVE



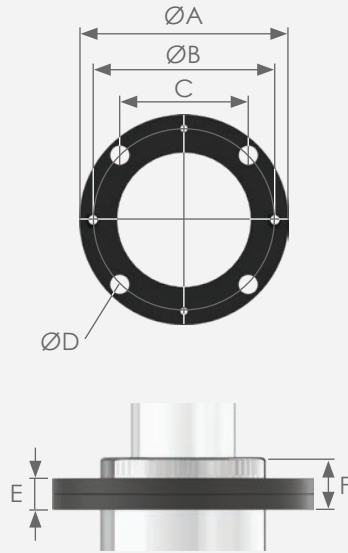
FORCE / PRESSURE RATIO



MOUNTING EXAMPLES

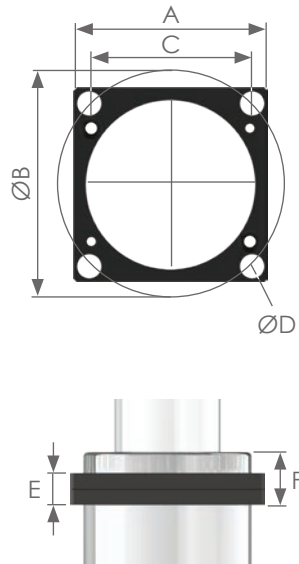
All dimensions are mm, unless otherwise stated.





FRONT FLANGE (FF)

FF TYPE	Ø A	Ø B	C	Ø D	E	F
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

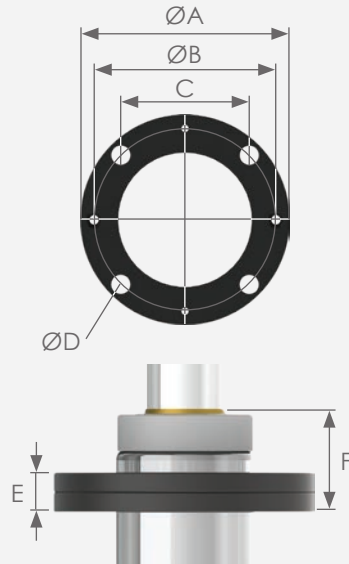


SQUARE FRONT FLANGE (SFF)

FF TYPE	Ø A	Ø B	C	Ø D	E	F
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	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

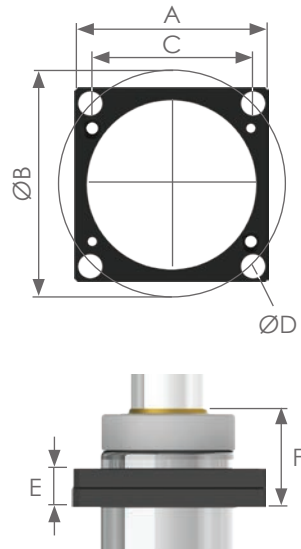


Please see **page 33** for flanges for the HS-EX, HS-G-EX and HS-MX range of hot stamp gas springs.



FRONT FLANGE (FF)

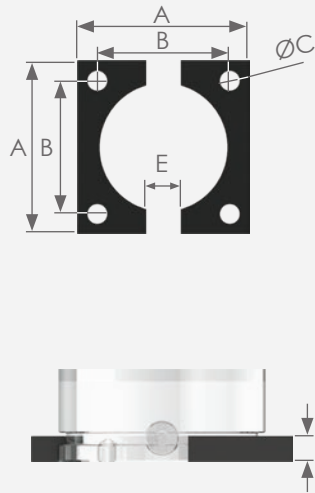
FF TYPE	Ø A	Ø B	C	Ø D	E	F
38 FF	68	56.5	40	7	9	27
45 FF	86	70.7	50	9	13	33
50 FF	95	80	56.5	9	13	33
63 FF	122	104	73.5	11	16	39
75 FF	122	104	73.5	11	16	39
95 FF	150	130	92	13.5	18	32
120 FF	175	155	109.5	13.5	21	45
150 FF	220	195	138	17.5	27	50



SQUARE FRONT FLANGE (SFF)

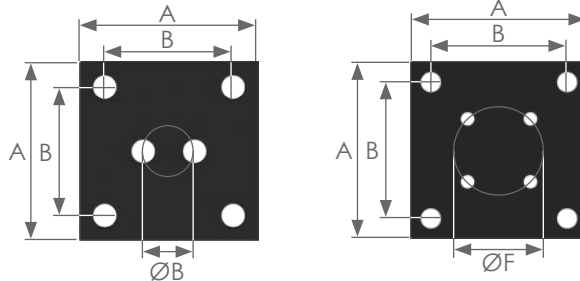
FF TYPE	Ø A	Ø B	C	Ø D	E	F
38 SFF	52	56.5	40	7	9	27
45 SFF	64	70.7	50	9	13	33
50 SFF	70	80	56.5	9	13	33
63 SFF	90	104	73.5	11	16	36
75 SFF	90	104	73.5	11	16	38
95 SFF	110	130	92	13.5	18	42
120 SFF	130	155	109.5	13.5	21	45
150 SFF	162	195	138	17.5	27	50

Patent Pending

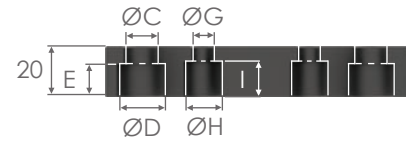


SQUARE FLANGE (SF)

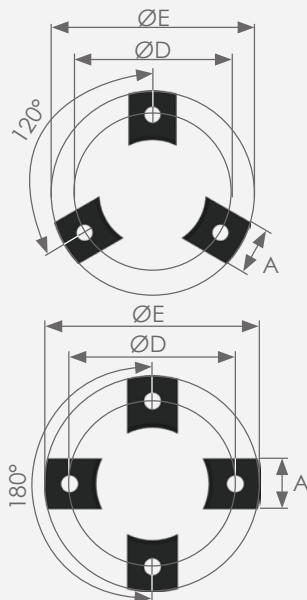
FF TYPE	A	B	Ø C	D	E
38 SF	55	40	7	7	12
45 SF	70	50	9	7	20
50 SF	75	56.5	9	12	24
63 SF	100	73.5	11	12	24
75 SF	100	73.5	11	12	24
95 SF	120	92	13.5	12	24
120 SF	140	109.5	13.5	12	24
150 SF	190	138	17.5	12	24



BASE PLATE (BP)



BP TYPE	A	B	Ø C	Ø D	E	Ø F	Ø G	Ø H	I
45 BP	70	50	9	15	12	20	9	15	14
50 BP	75	56.5	9	15	12	20	9	15	14
63 BP	100	73.5	10.5	18	12	20	9	15	12
75 BP	100	73.5	11	18	12	40	9	15	14
95 BP	120	92	13.5	20	13	60	9	15	14
120 BP	140	109.5	13.5	20	13	80	11	18	15
150 BP	190	138	17.5	26	17	100	11	18	15



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

Patent Pending

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HS



HOT STAMP

GAS SPRING RANGE

Patent Pending

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