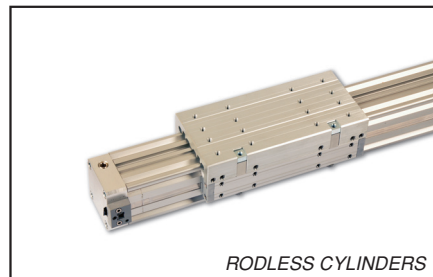


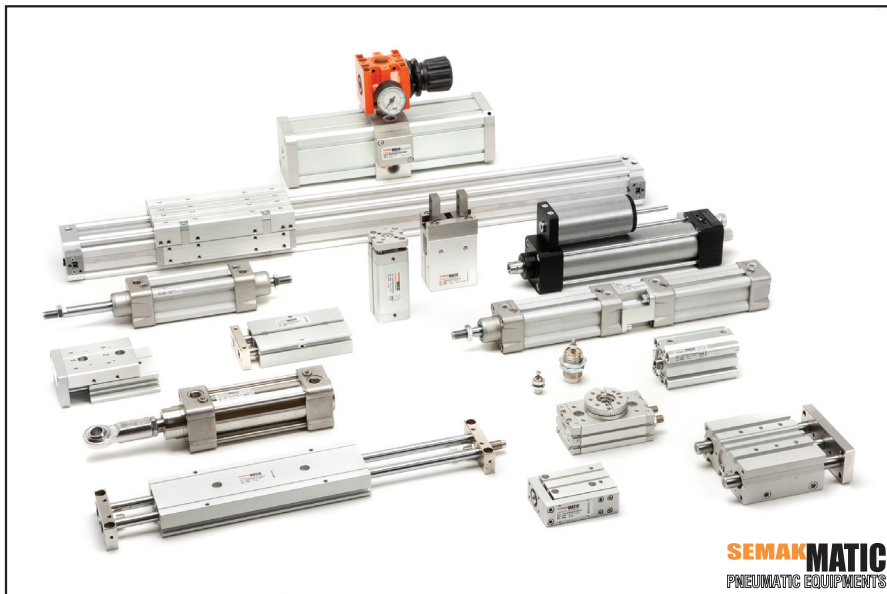
INOX CYLINDERS



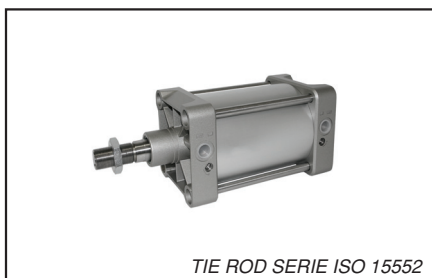
ISO 21287 SERIE



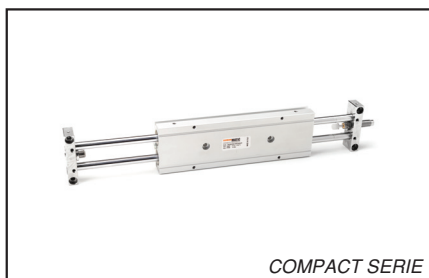
RODLESS CYLINDERS



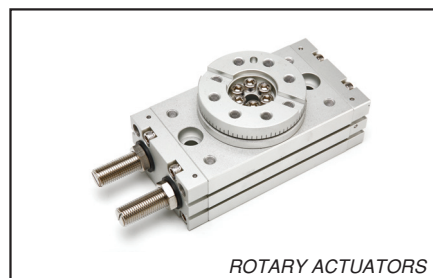
SEMAKMATIC
PNEUMATIC EQUIPMENTS



TIE ROD SERIE ISO 15552



COMPACT SERIE



ROTARY ACTUATORS

PNEUMATIC ACTUATORS

CYLINDERS & ACCESSORIES



SEMAKMATIC
PNEUMATIC EQUIPMENTS

PNEUMATIC ACTUATORS

ISO 15552 CYLINDERS & CYLINDER KITS

ISO 6432 CYLINDERS

RODLESS CYLINDERS

SHORT STROKE SERIE

COMPACT SERIE

HYDRO PNEUMATIC UNITS

ISO GUIDING UNITS

ISO ROD LOCKS

BOOSTER

CARTRIDGE CYLINDERS

ROTARY ACTUATORS

GRIPPERS

STAINLESS STEEL CYLINDERS

ISO CYLINDER ACCESSORIES

PROXIMITY SWITCHES

INDEX / CERTIFICATE

This image shows a full page of blank, lined paper. It features approximately 28 horizontal grey lines spaced evenly apart, typical of notebook paper. The lines extend across the entire width of the page. There are no margins, text, or other markings present.

- ❑ Ø 32 ... 125 STANDART SERIE ISO 15552 CYLINDERS Pag. 1.1
- ❑ THROUGH ROD, TANDEM, TWO STROKE SERIE Pag. 1.3
- ❑ Ø 160 – 200 – 250 – 320 TIE ROD SERIE Pag. 1.4
- ❑ THROUGH ROD, TANDEM, TWO STROKE (Tie rod) Pag. 1.5
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ISO 15552 CYLINDERS



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RODLESS CYLINDERS



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SHORT STROKE SERIE



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COMPACT SERIE



❑ THRUST / TRACTION ADJUSTED

Pag. 1.51

❑ STOP / SKIP VALVE INTEGRATED

Pag. 1.51

❑ H TYPE with BRONZE BUSHING

Pag. 1.56

❑ U TYPE with BRONZE BUSHING

Pag. 1.56

❑ Ø 20 - Ø 25 mm ROD LOCK

Pag. 1.62

❑ Ø 32 100 mm ROD LOCK

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❑ Ø 63 mm BOOSTER

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❑ Ø 6 mm CARTRIDGE CYLINDER

Pag. 1.68

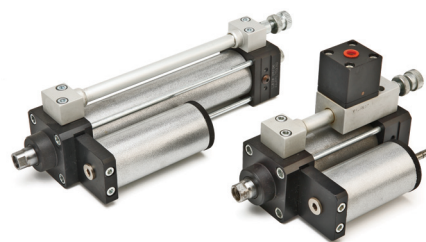
❑ Ø 10 mm CARTRIDGE CYLINDER

Pag. 1.68

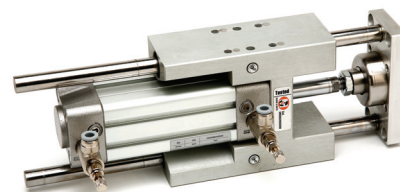
❑ Ø 16 mm CARTRIDGE CYLINDER

Pag. 1.68

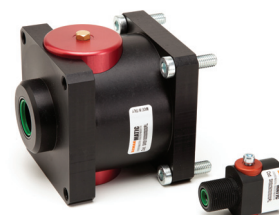
HYDRO PNEUMATIC UNITS



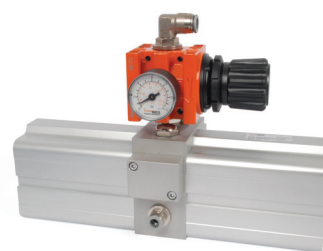
ISO GUIDING UNITS



ISO ROD LOCKS



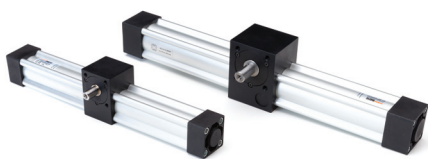
BOOSTER



CARTRIDGE CYLINDERS



ROTARY ACTUATORS



❑ Ø 16 mm – 20 mm – 32 mm 180° ROTARY

Pag. 1.70

❑ ISO 15552 Ø 32 – 125 mm 360° ROTARY

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GRIPPERS



❑ PARALLEL GUIDED

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STAINLESS STEEL CYLINDERS



❑ ISO 15552 SERIE STAINLES STEEL CYLINDERS

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❑ ISO 643 SERIE STAINLESS STEEL CYLINDERS

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❑ ACCESSORIES

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CYLINDER SENSORS



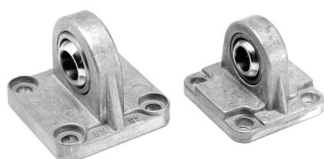
❑ STANDART SENSORS

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❑ BRACKETS FOR ISO 6432

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ISO CYLINDER ATTACHMENTS



❑ FRONT ATTACHMENTS

Pag. 1.94

❑ REAR ATTACHMENTS

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ISO 15552 CYLINDERS



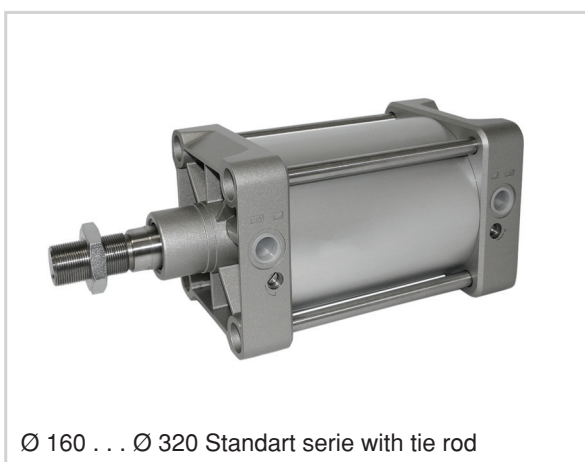
Ø 32 . . . Ø 125 Standart serie with al. profile

The new serie of SEMAKMATIC iso 15552 cylinders has a shining profile and a very light weight durable caps.

It has four different versions and all has magnetic ring, also precise adjustable cushioning system. Through rod, tandem and two stroke series are highly suitable for automation applications. New style barrel which has two grooves on the same side, can be used standart serie of sensors without bracket .

Additionally the new tie rod serie is also very light and durable. For sensor applications bracket is necessary.

For the sensor details please see page 1.92



Ø 160 . . . Ø 320 Standart serie with tie rod

ORDERING CODES

ordering code for standart serie	: SMS . . . / CMY31
ordering code for through rod serie	: SM1 . . . / CMY31
ordering code for tandem serie	: SM2 . . . / CMY31
ordering code for two stroke serie	: SM3 . . . / / CMY31
Diameters with al. Profile	: Ø32 .40 .50 .63 .80.100.125 mm
Diameters with tie rod	: Ø160 . 200 . 250 . 320 mm
Strokes	: from 10 to 2000 mm
ordering code for 2 wire sensor	: SMSS5V0230ACDC0
ordering code for 3 wire PNP sensor	: SMSS5V030PNPDC0
bracket for tie rod serie 160 .. 320 mm	: SMSSKELEPCE0001
VITON SEAL ...	Please indicate " . . . CMY3V " instead of " . . . CMY31 "

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C (for viton seal serie + 150 °C)

Version : Magnetic, Cushioned, Double acting

Materials

Covers : Painted die cast aluminium

Barrel : Anodized aluminium

Seals : Polyuretane

Bush : Sintered Bronze

Piston Rod : C45 Chromed steel

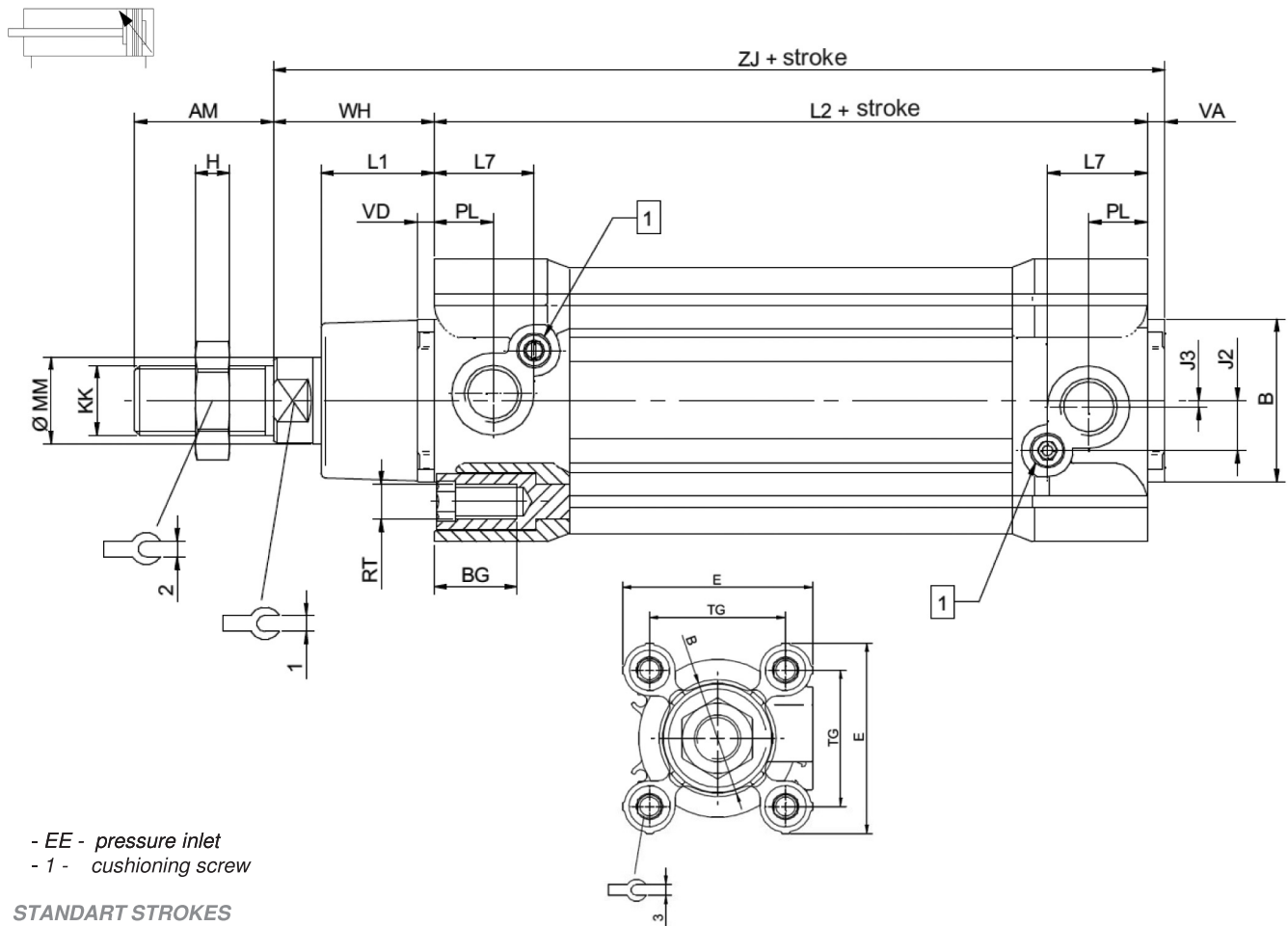
Screws and tie rods : Steel

Available series : 1) standard serie 2) through rod serie

3) tandem serie 4) two stroke serie

Standart strokes : from 10 - 2000 mm

ISO 15552 Cylinders standart (SMS ... / ... CMY31)



- EE - pressure inlet
- 1 - cushioning screw

STANDART STROKES

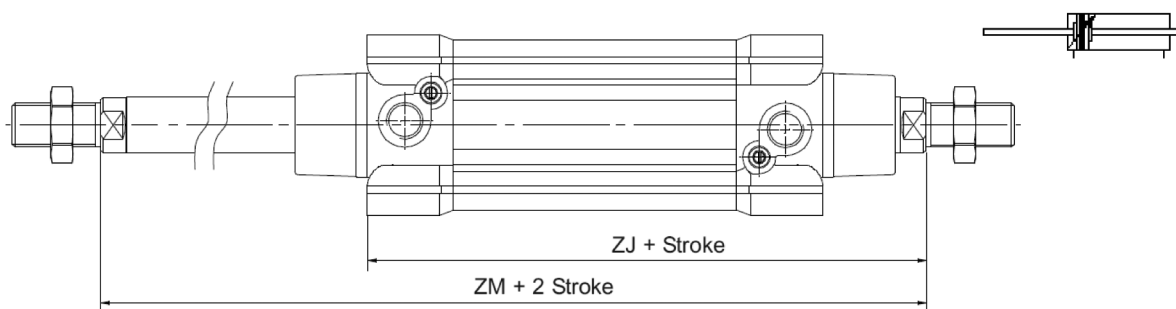
25 , 50 , 80 , 100 , 125 , 160 , 200 , 250 , 320 , 400 , 500 mm

Ø	AM	B	BG	E	EE	J2	J3	KK	L1	L2	H
32	22	30	15	47	G 1/8	6	5	M10x1,25	20	94	6
40	24	35	15	52	G 1/4	8	6	M12x1,25	22	105	7
50	32	40	16	65	G 1/4	10,5	6	M16x1,5	26	106	8
63	32	45	15	75	G 3/8	10,5	8,5	M16x1,5	25	121	8
80	40	45	17	95	G 3/8	14	9,5	M20x1,5	32	128	9
100	40	55	17	115	G 1/2	15	10	M20x1,5	38	138	9
125	54	60	21	140	G 1/2	20	10	M27x2	40	160	12

Ø	L7	MM	PL	RT	TG	VA	VD	WH	ZJ	1	2	3
32	18	12	14	M6	32,5	4	4	26	124	10	17	6
40	20	16	15	M6	38	4	4	30	139	13	19	6
50	20	20	15	M8	46,5	4	4	37	147	17	24	8
63	10	20	16	M8	56,5	4	4	37	162	17	24	8
80	13,5	25	20,5	M10	72	4	4	46	178	22	30	10
100	13	25	20	M10	89	4	4	51	193	22	30	10
125	33	32	27	M12	110	5	5	65	230	27	41	12

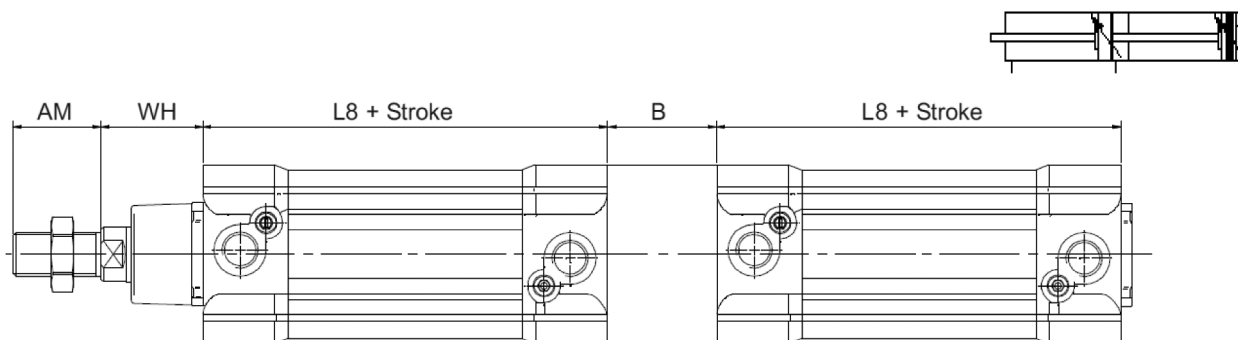
ISO 15552 CYLINDERS

ISO 15552 Cylinders through rod (SM1 ... / ... CMY31)

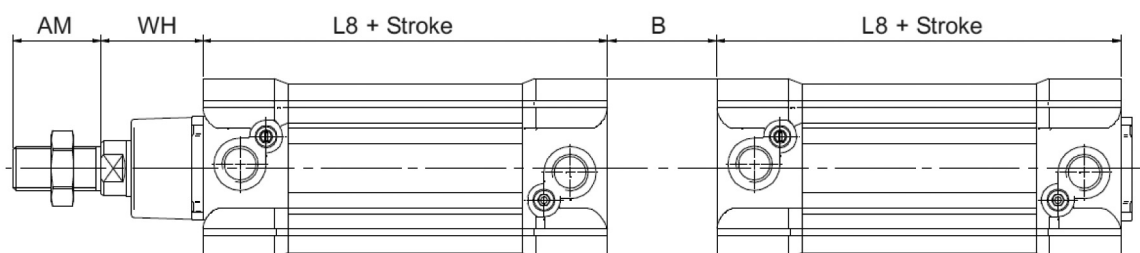


Ø	32	40	50	63	80	100	125
ZJ	120	135	143	158	174	189	225
ZM	146	165	180	195	220	240	290

ISO 15552 Cylinders tandem (SM2. ... / ... CMY31)



ISO 15552 Cylinders two stroke (SM3. ... / ... CMY31)

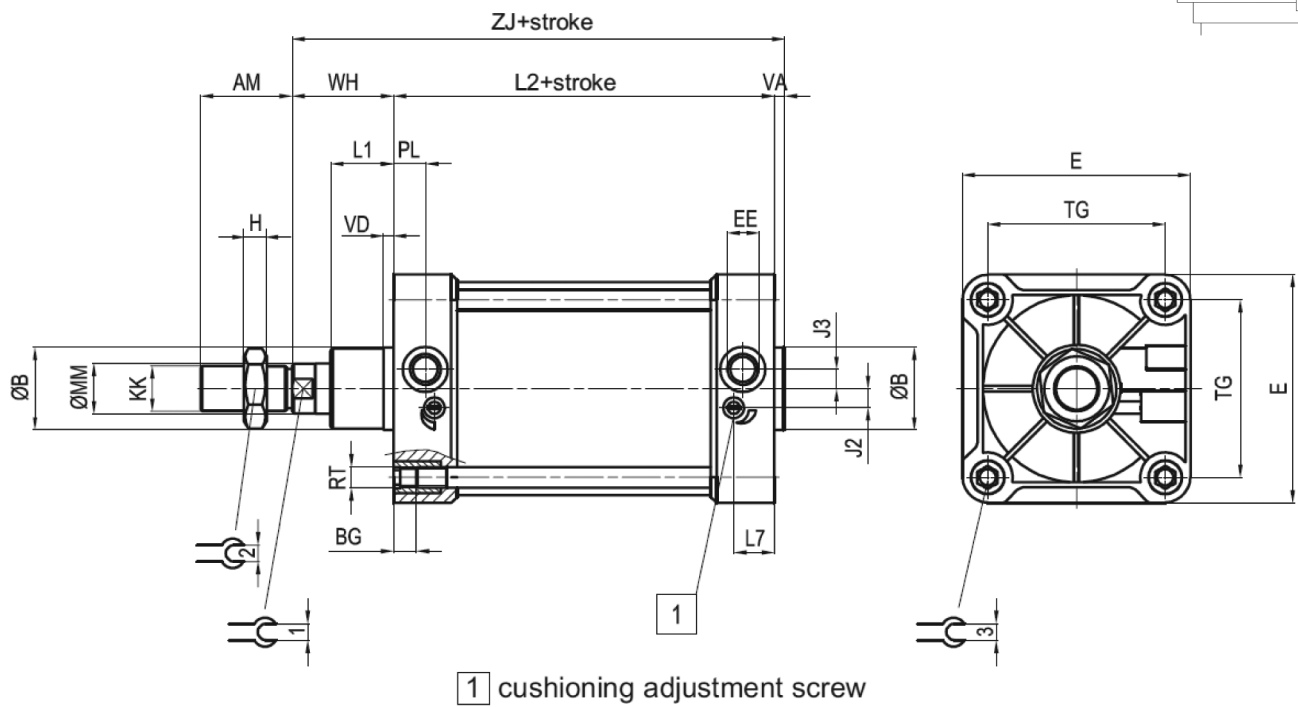


STANDART STROKES
for SM1, SM2, SM3

25, 50, 80, 100
125, 160, 200 mm

Ø	32	40	50	63	80	100	125
AM	22	24	32	32	40	40	54
WH	26	30	37	37	46	51	65
B	40	44	52	50	64	76	80
L8	94	105	106	121	128	138	160

ISO 15552 Cylinders standart with tie rod (SMS . . . / CMY31)

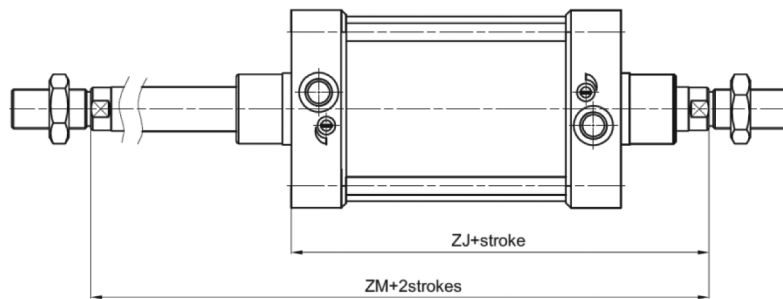


Ø	AM	B	BG	E	EE	J2	J3	KK	L1	L2	H
160	72	65	23	180	G 3/4	15	15	M36x2	50	180	14
200	72	75	23	220	G 3/4	15	15	M36x2	65	180	14
250	84	90	25	270	G 1	25	25	M42x2	75	200	20
320	96	110	30	350	G 1	35	35	M48x2	90	220	17

Ø	L7	MM	PL	RT	TG	VA	VD	WH	ZJ	1	2	3
160	32	40	25	M16	140	6	8	80	266	36	55	16
200	34	40	25	M16	175	6	25	95	281	36	55	16
250	40	50	30	M20	220	8	25	105	313	46	65	20
320	45	63	30	M24	270	10	25	120	350	55	75	24

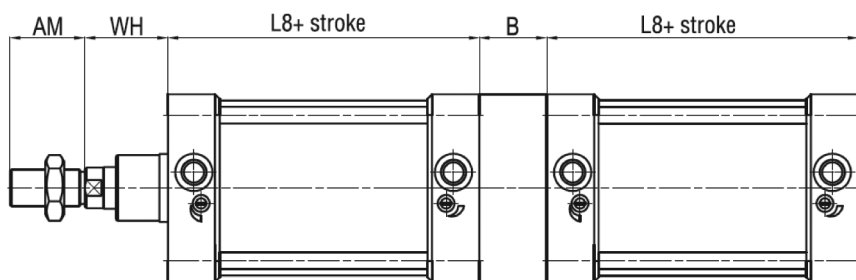
ISO 15552 CYLINDERS

ISO 15552 Cylinders through rod "tie rod" (SM1 ... / CMY31)

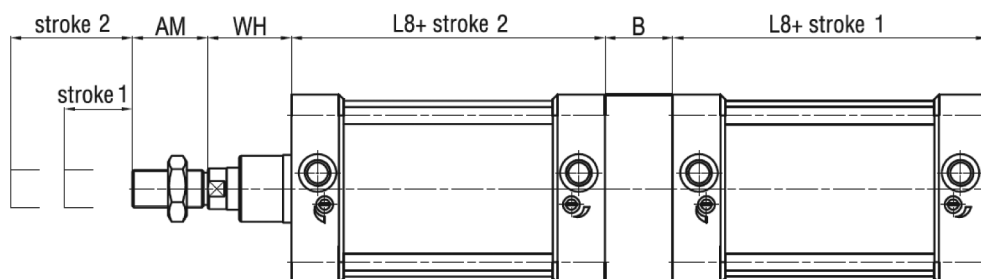


Ø	160	200	250	320
ZJ	260	275	305	340
ZM	340	370	410	460

ISO 15552 Cylinders tandem with tie rod (SM2. ... / CMY31)



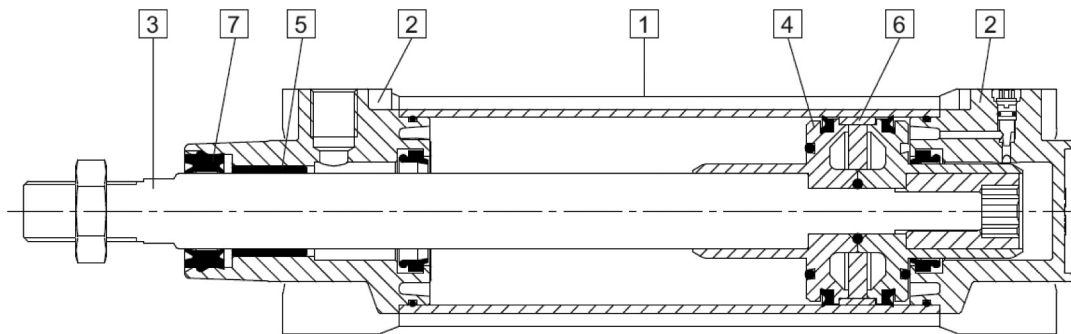
ISO 15552 Cylinders two stroke with tie rod (SM3. ... / / / CMY31)



STANDART STROKES
for SM1 , SM2 , SM3 series
25 , 50 , 80 , 100 , 125 , 160 , 200 mm

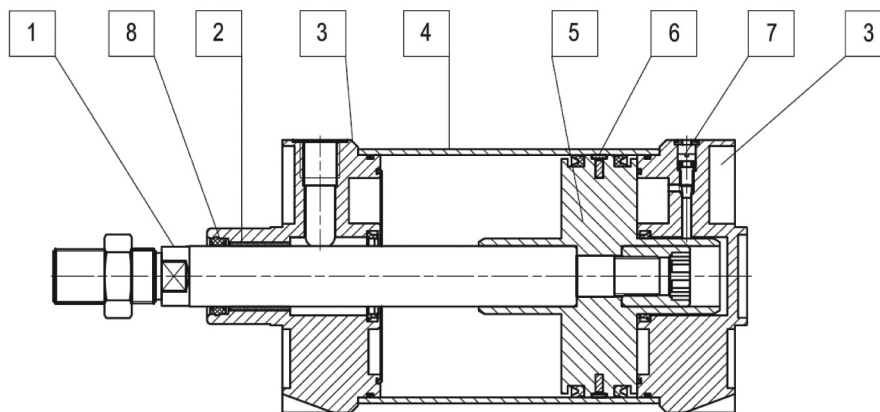
Ø	160	200	250	320
AM	72	72	84	96
WH	80	95	105	120
B	100	130	150	180
L8	180	180	200	220

ISO 15552 Cylinders standart (SMS ... / ... CMY31)



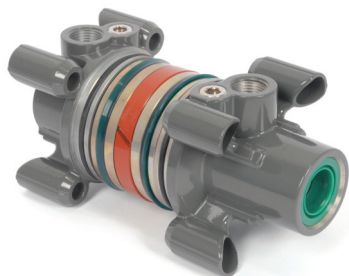
- 1. TUBE .. Anodized aluminium
- 2. HEADS .. Die cast painted aluminium
- 3. ROD .. Chrome – plated steel C45
- 4. PISTON .. Die – cast aluminium
- 5. BUSHING .. Self – lubricating sintered bronze
- 6. GUIDE RING .. Natural Delrin
- 7. ROD SEALS .. Polyuretane
(on request VITON)

ISO 15552 Cylinders standart with tie rod (SMS ... / ... CMY31)



- 1. ROD .. Chrome – plated steel C 45
- 2. BUSHING .. Self – lubricating sintered bronze
- 3. HEADS .. Die cast painted aluminium
- 4. TUBE .. Anodized aluminium
- 5. PISTON .. Die – cast aluminium
- 6. GUIDE RING .. Natural Delrin
- 7. CUSHIONING SCREW .. Stainless steel AISI 303
- 8. ROD SEALS .. Polyuretane (on request VITON)

SPARE PART KITS for ISO 15552



Al. profile serie head kit

SEMAKMATIC serie of iso 15552 cylinder kits are supplied without a barrel, rod and tie rods.

All the seals, caps and screws are available in the head kit set.

In the seal kit set there are only standart seals.

In the VITON seal kit set there are only standart viton seals.



Tie rod serie head kit

ORDERING CODES

Ordering code for head kit	: SMS . . . TT
Diameters with al. Profile	: Ø32.40.50.63.80.100.125 mm
Diameters with tie rod	: Ø160 . 200 . 250 . 320 mm
Ordering code for seal kit	: SMS . . . TT1
Ordering code for seal kit (viton)	: SMS . . . TV1

Caps	: Painted die cast aluminium
Seals	: Polyuretane on request Viton (max. 150 °C)
Screws	: Steel
Piston	: Aluminium
Magnet	: Elastic ring
Version	: Magnetic - cushioned
Rod nut	: Excluded
Tie rods and nut	: Excluded
Barrel and rod	: Excluded for tie rod and standart serie



Standart serie

Mini cylinder series of SEMAKMATIC are manufactured according to DIN / iso 6432

The precise method of placing the tube at the end block ensures that all the parts are perfectly aligned.

The variations are, double acting, single acting, magnetic and adjustable cushioning for high impact loads.

For sensor applications, bracket is needed.

U and H type iso guiding units can be used for iso 6432 serie.



Magnetic cushioned

ORDERING CODES for SENSORS

ordering code for 2 wire sensor : SMSS5V0230ACDC0

ordering code for 3 wire PNP sensor : SMSS5V030PNPDC0

ordering code for Ø 16 mm bracket : SMSSKELEPCE0160

ordering code for Ø 20 mm bracket : SMSSKELEPCE0200

ordering code for Ø 25 mm bracket : SMSSKELEPCE0250

For the sensor details please see page 1.92

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continuous.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Cushioned, Double acting

Materials

Covers : Anodized aluminium

Barrel : Stainles steel 304 AISI

Seals : Polyuretane

Piston : Brass

Piston Rod : AISI 303

Bush : Sintered bronze

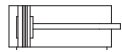
Available series : 1) standard seri 2) single acting serie

3) through rod serie 4) cushioned serie

Strokes : from 10 - 1000 mm

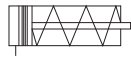
ISO 6432 CYLINDERS

HOW TO ORDER ISO 6432 Cylinders



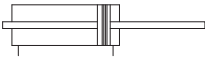
SMS ... / ... CM032

DOUBLE ACTING - MAGNETIC



SMS ... / ... TM032

SINGLE ACTING MAGNETIC



SM1 ... / ... CMIKS

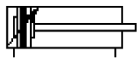
DOUBLE ACTING – MAGNETIC - THROUGH ROD

SM1 ... / ... TMIKS

SINGLE ACTING – MAGNETIC – THROUGH ROD

SM1 ... / ... CMIKS

DOUBLE ACTING – MAGNETIC – CUSHIONED – THROUGH ROD



SMS ... / ... CMIKS

DOUBLE ACTING – MAGNETIC - CUSHIONED

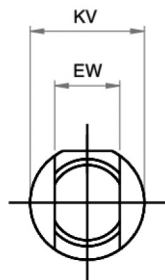
STANDART DIAMETERS

Single & Double acting Ø 10 , 12 , 16 , 20 , 25 mm
Through rod & Cushioned Ø 16 , 20 , 25 mm

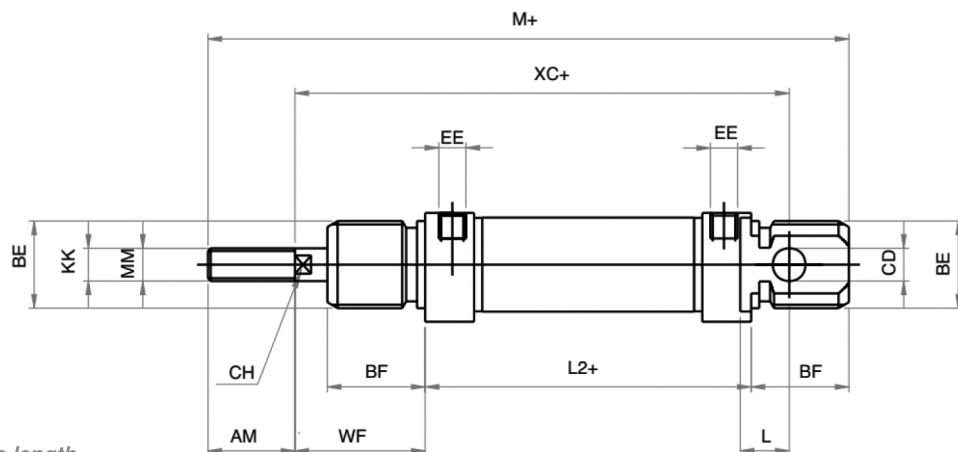
STANDART STROKES

Single acting 10 , 25 , 50 mm ,
Double acting 10 , 25 , 50 , 80 , 100 , 125 , 160 , 200 , 250 mm
Cushioned 50 , 80 , 100 , 125 , 160 , 200 , 250 , 320 , 400 , 500 mm
Through rod 25 , 50 , 100 , 150 , 200 mm

ISO 6432 Cylinders standart (SMS ... / ... CM032)



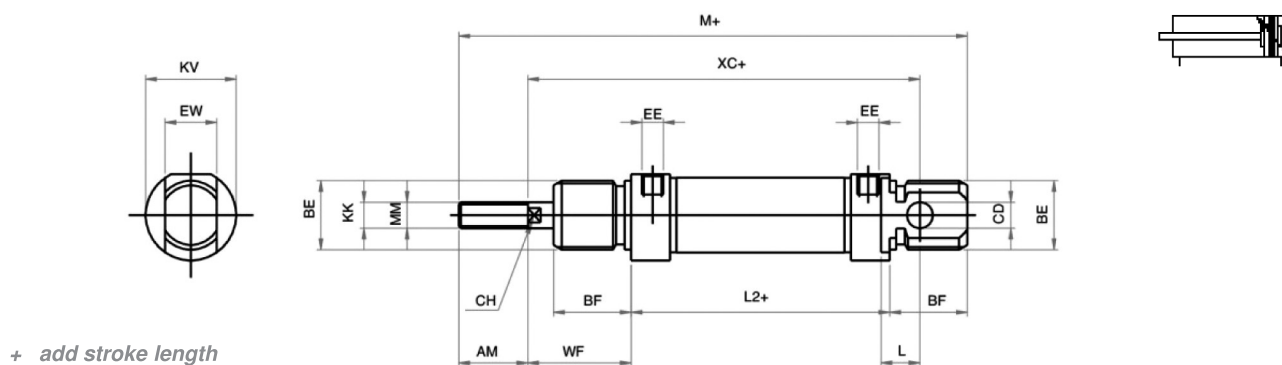
+ add stroke length



Ø	AM	BE	BF	CD	CH	EE	EW
10	12	M12x1.25	12	4	...	M5	8
12	16	M16x1.5	18	6	5	M5	12
16	16	M16x1.5	18	6	5	M5	12
20	20	M22x1.5	20	8	7	1/8G	16
25	22	M22x1.5	22	8	9	1/8G	16

Ø	KK	Ø KV	L	L2+	M+	Ø MM	WF	XC+
10	M4	16	6	46	86	4	16	64
12	M6	19	9	48	104	6	22	75
16	M6	19	9	53	109	6	22	82
20	M8	27	12	67	131	8	24	95
25	M10x1.25	30	12	68	140	10	28	104

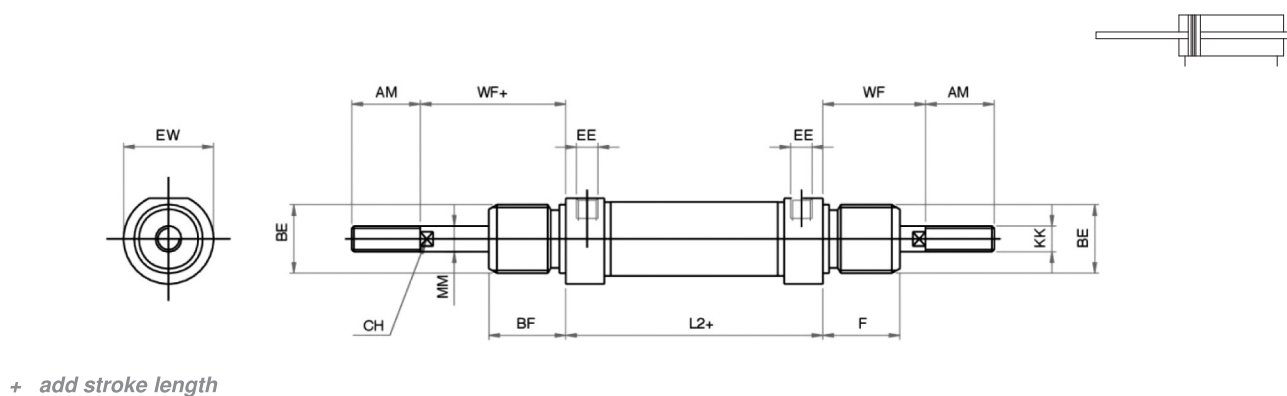
ISO 6432 Cylinders cushioned (SMS ... / ... CMY32)



Ø	AM	BE	BF	CD	CH	EE	EW
16	16	M16x1.5	18	6	5	M5	12
20	20	M22x1.5	20	8	7	1/8G	16
25	22	M22x1.5	22	8	9	1/8G	16

Ø	KK	Ø KV	L	L2+	M+	Ø MM	WF	XC+
16	M6	21	9	53	109	6	22	82
20	M8	27	12	67	131	8	24	95
25	M10x1.25	30	12	68	140	10	28	104

ISO 6432 Cylinders Through rod (SM1 ... / ... / ... 32)

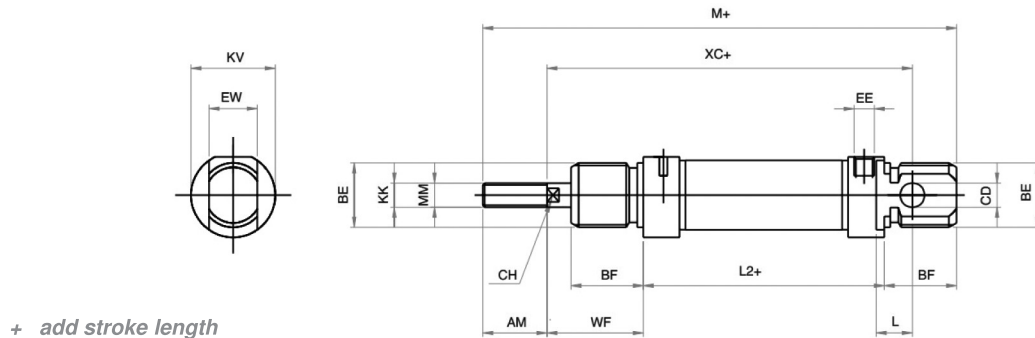


Ø	AM	BE	BF	CD	CH	EE	EW
16	16	M16x1.5	18	6	5	M5	12
20	20	M22x1.5	20	8	7	1/8G	16
25	22	M22x1.5	22	8	9	1/8G	16

Ø	KK	Ø KV	L	L2+	M+	Ø MM	WF	XC+
16	M6	21	9	53	109	6	22	82
20	M8	27	12	67	131	8	24	95
25	M10x1.25	30	12	68	140	10	28	104

ISO 6432 CYLINDERS

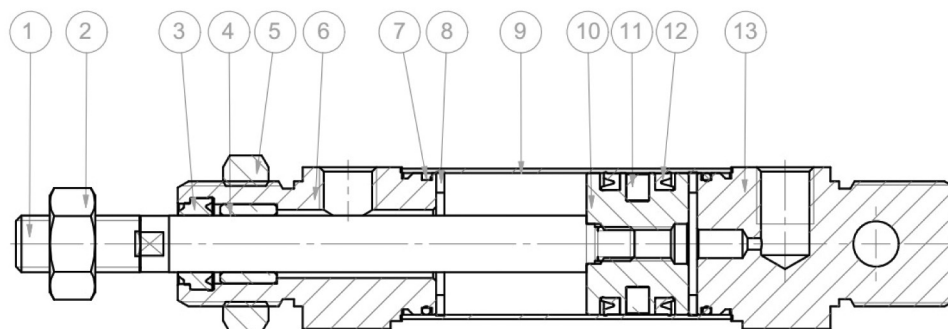
ISO 6432 Cylinders single acting (SMS . . . / TM032)



Ø	AM	BE	BF	CD	CH	EE	EW
10	12	M12x1,25	12	4	?	M5	8
12	16	M16x1,5	18	6	5	M5	12
16	16	M16x1,5	18	6	5	M5	12
20	20	M22x1,5	20	8	7	1/8G	16
25	22	M22x1,5	22	8	9	1/8G	16

Ø	KK	Ø KV	L	L2+	M+	Ø MM	WF	XC+
10	M4	16	6	46	86	4	16	64
12	M6	19	9	48	104	6	22	75
16	M6	19	9	53	109	6	22	82
20	M8	27	12	67	131	8	24	95
25	M10x1,25	30	12	68	140	10	28	104

INTERNAL PART LIST of the ISO 6432 STANDART SERIE CYLINDER



1. PISTON ROD inox AISI 303
- 2 – 5 NUT zinc coated steel – ALUMINIUM
- 3 – 7 - 12 SEALS Nbr
- 4 BUSH sintered bronze
- 6 - 13 COVERS anodized aluminium
8. STATIC CUSHIONING elastic
9. TUBE inox 304
10. PISTON brass
11. MAGNET rubber



Standart rodless cylinder

SEMAKMATIC serie rodless cylinders, has two different versions which are non guided and guided.

Magnet and cushioned are standart for both serie.

Cylinders with direct power transmission through the tube slot on to the yoke.

The new cushionings are adjustable at both ends; the cushioning flow rate is regulated from 0 to 100 % by turning a pin of an angle of 90°. The new barrel with high resistance to deflection is provided with grooves for fixing various type of sensors.

Standart SEMAKMATIC serie of magnetic sensors can be used for rodless cylinders.



Rodless cylinder with guiding unit

ORDERING CODES

ordering code for standart serie	: SMS . . . / CMYMS
ordering code for guided serie	: SMS . . . / CMYMK
Diameters	: Ø18 - 25 - 32 - 40 - 50 - 63 mm
Standart strokes	: from 100 mm to 6000 mm
ordering code for 2 wire sensor	: SMSS5V0230ACDC0
ordering code for 3 wire PNP sensor	: SMSS5V030PNPDC0

For the sensor details please see page 1.92

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : 2 / 8 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Cushioned, Double acting

Materials

Heads : Anodized aluminium

Barrel : Anodized aluminium

Seals : Polyuretane - Piston : monoblock / yoke : Aluminium

Internal strip : Nylon

External strip : Stainless steel AISI 304

Wiper ring : PVC

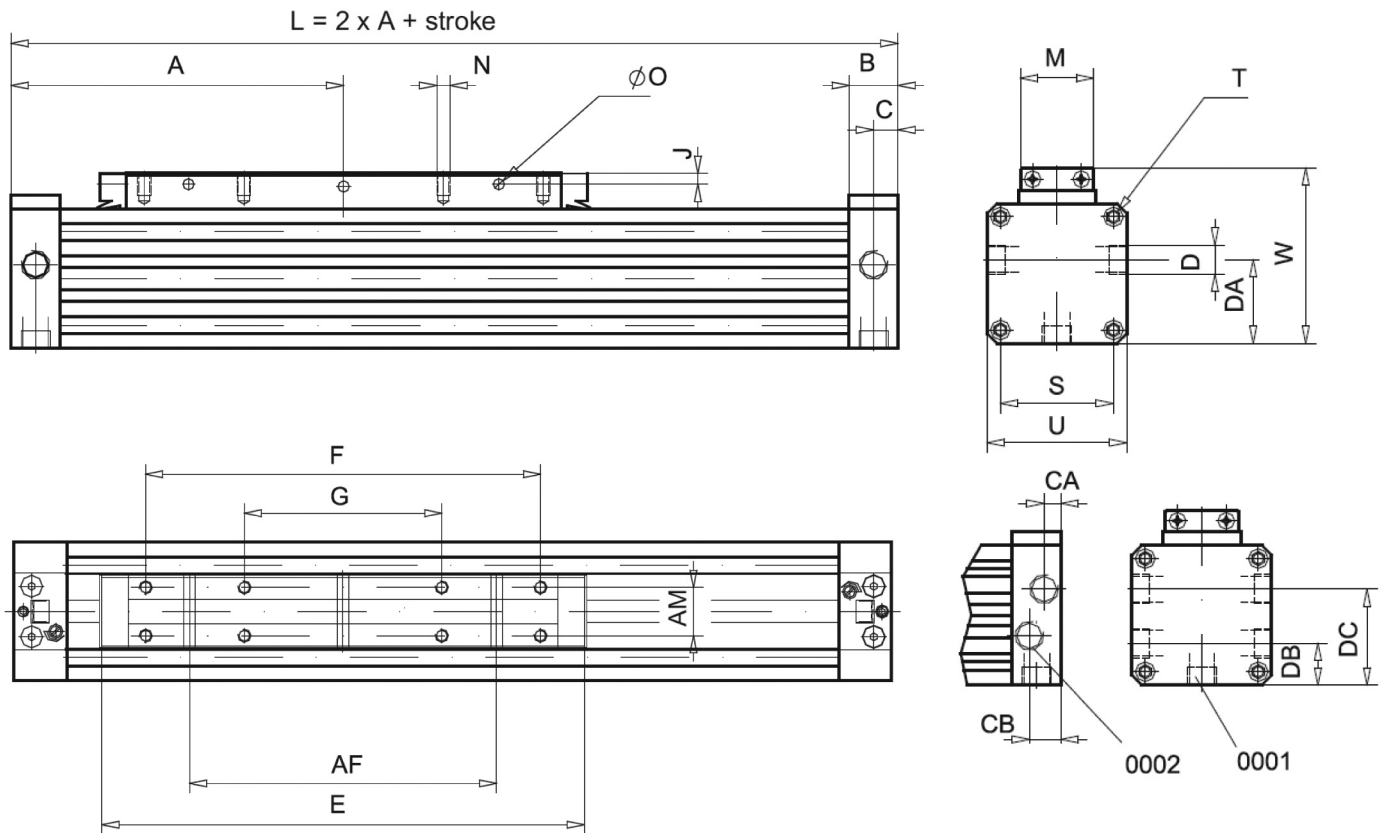
Details : nonguided and guided serie

Standart strokes : from 100 - 6000 mm

Before ordering the cylinder please see the applicable forces

RODLESS CYLINDERS

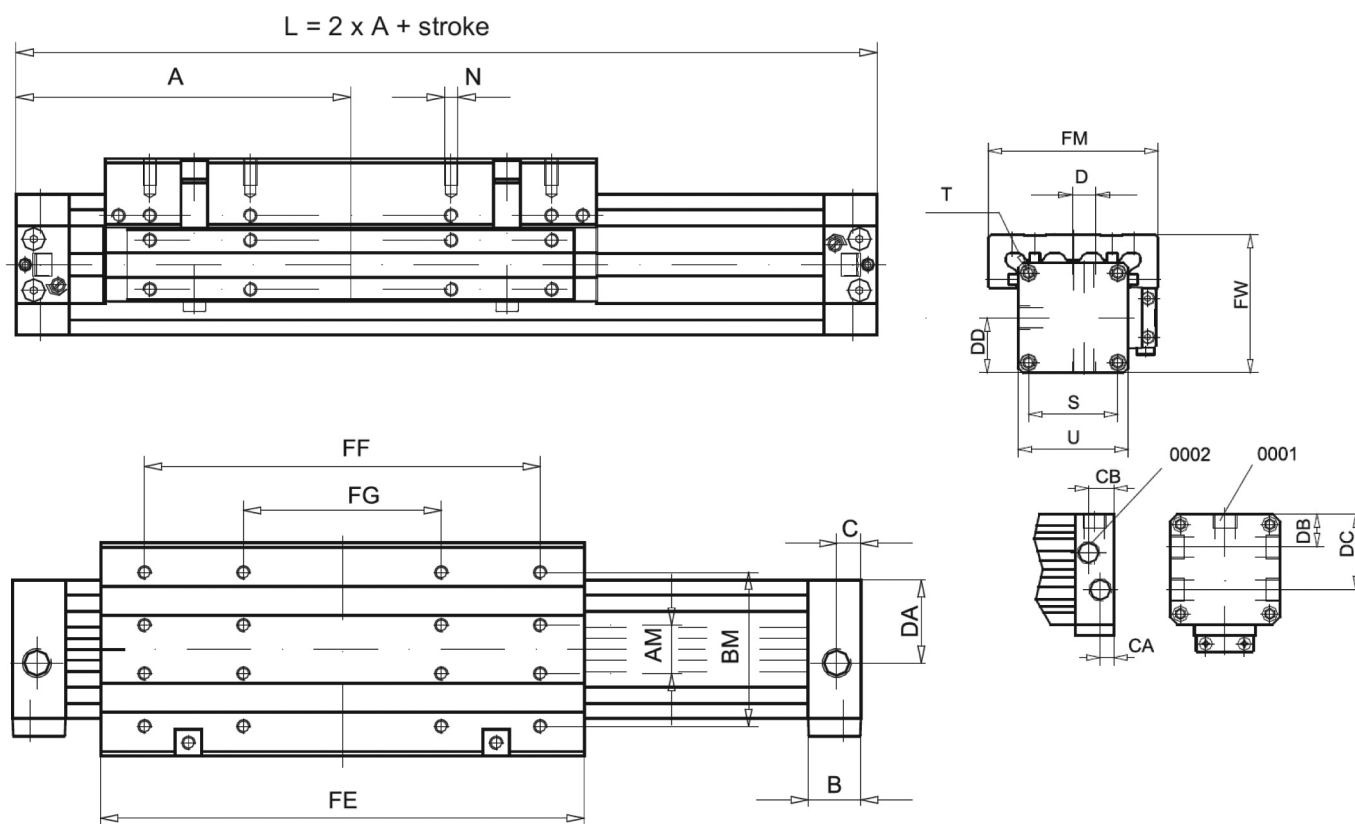
Rodless cylinder standart (SMS . . . / CMYMS)



Ø	A	AF	AM	B	C	CA	D	DA	DB	DC
18	80	50	10	16,5	6,5	...	M5x6	15,5	...	...
25	100	70	13	20	8,5	7	1/8"x8	25,5	14	28
32	120	100	16	20	8,5	7	1/8"x8	32	16	34,5
40	150	140	22	23	12	11	1/4"x12	37,5	18,5	41
50	180	180	29	23	12	12	1/4"x12	47,5	22,5	47,5
63	215	230	40	29	12,5	12,5	3/8"x12	59,5	24,5	59,5

Ø	E	F	G	J	M	N	ø O	S	T	U	W
18	103	75	...	3	15,5	M3x6	3,5	23,5	M3x7	30	39
25	131	100	50	3,5	20	M4x7	4,5	33	M4x9	42	53
32	171	140	70	4,5	25	M5x9	5,5	41	M5x10	52	65
40	220	180	90	5	33	M6x10	7	51	M6x12	63	79
50	280	220	110	6,5	42	M8x12,5	7	63	M8x12	78	96
63	333	280	140	8	54	M8x15	9	78	M8x12	93	113,5

Rodless cylinder with guiding unit (SMS ... / ... CMYMK)

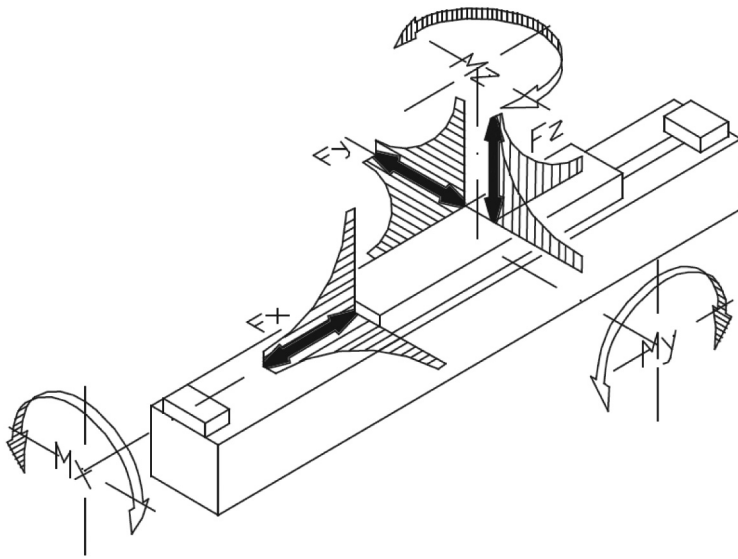


Ø	A	AM	B	BM	C	CA	CB	D	DA	DB
18	80	10	16,5	35	6,5	...	...	M5x6	17,5	...
25	100	13	20	45	8,5	7	13	1/8"x8	25,5	14
32	120	16	20	55	8,5	7	13	1/8"x8	32	17,5
40	150	22	24	70	11	9,5	14,5	1/4"x12	37,5	20
50	180	29	24	85	11	9,5	14,5	1/4"x12	47,5	26
63	215	40	30	105	14,5	11	18,5	3/8"x12	59,5	30

Ø	DC	DD	FE	FF	FG	FM	FW	N	S	T	U
18	...	15	103	75	...	50	39	M4x7,5	23,5	M3x7	30
25	28	21	131	100	50	66	53	M4x8	33	M4x9	42
32	34,5	26	171	140	70	80	65	M5x10	41	M5x10	52
40	42	31,5	220	180	90	97	79	M6x12	51	M6x12	63
50	52	39	280	220	110	116	96	M8x16	63	M8x12	78
63	62	46,5	333	280	140	136	113,5	M8x16	78	M8x12	93

RODLESS CYLINDERS

Rodless cylinder standart (SMS . . . / CMYMS)



All datas concerning forces refer to a speed of $V < 0,35$ m/sec.

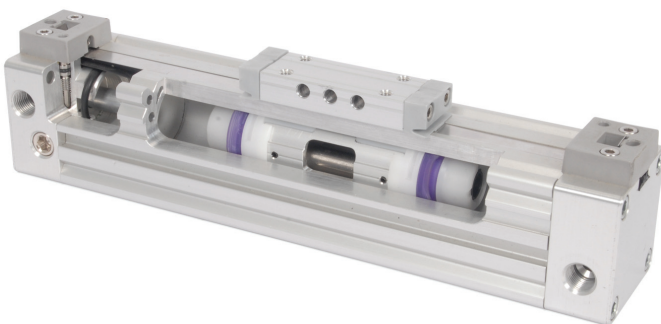
Keeping the indicated value ensures the maximum service life, the min. noise and the best operating result.

Higher speed reduces the admissible forces.

Where the working conditions out of the allowed limits (see table below), the energy of the mass in motion should be absorbed by devices mounted as much nearer to the barycenter of the mass.

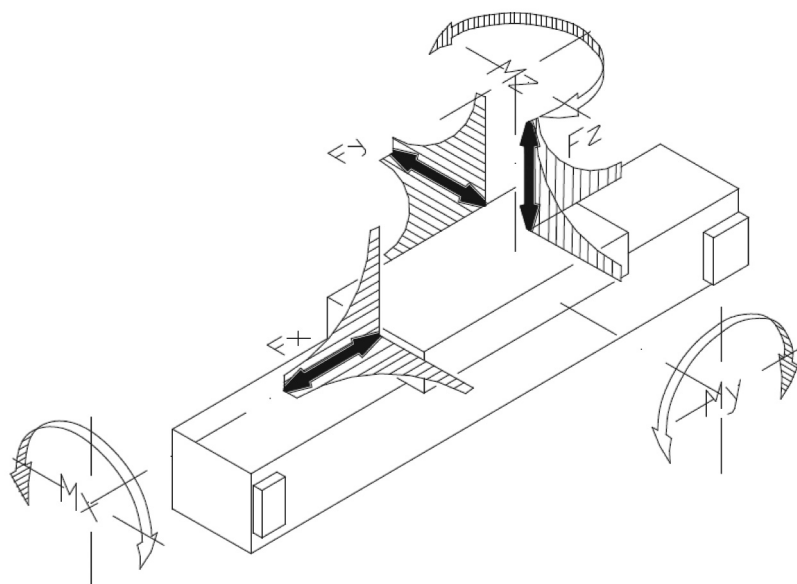
Ø mm	Force ($V_{max} \leq 0,35$ m/s)			F (load in N)			Moments		
	Fx (N) 6 bar	Fy (N) 6 bar	Fz (N) 6 bar	0,75 m/s	1 m/s	1,5 m/s	Mx (Nm) Fy/Fz	My (Nm) Fx/Fz	Mz (Nm) Fx/Fy
18	140	80	300	80	40	20	1	3	3
25	270	110	480	155	90	40	2	13	13
32	440	165	650	280	155	70	3,5	25	25
40	680	225	800	500	290	125	5,5	40	40
50	1060	325	1060	790	420	195	10	65	65
63	1680	435	1680	1500	850	370	16	100	100

Internal view of the Rodless cylinder standart serie



with guiding unit RODLESS CYLINDERS

Rodless cylinder with guiding unit (SMS . . . / CMYMK)



All datas concerning forces refer to a speed of $V < 0,35$ m/sec.

Keeping the indicated value ensures the maximum service life, the min. noise and the best operating result.

Higher speed reduces the admissible forces.

Where the working conditions out of the allowed limits (see table below), the energy of the mass in motion should be absorbed by devices mounted as much nearer to the barycenter of the mass.

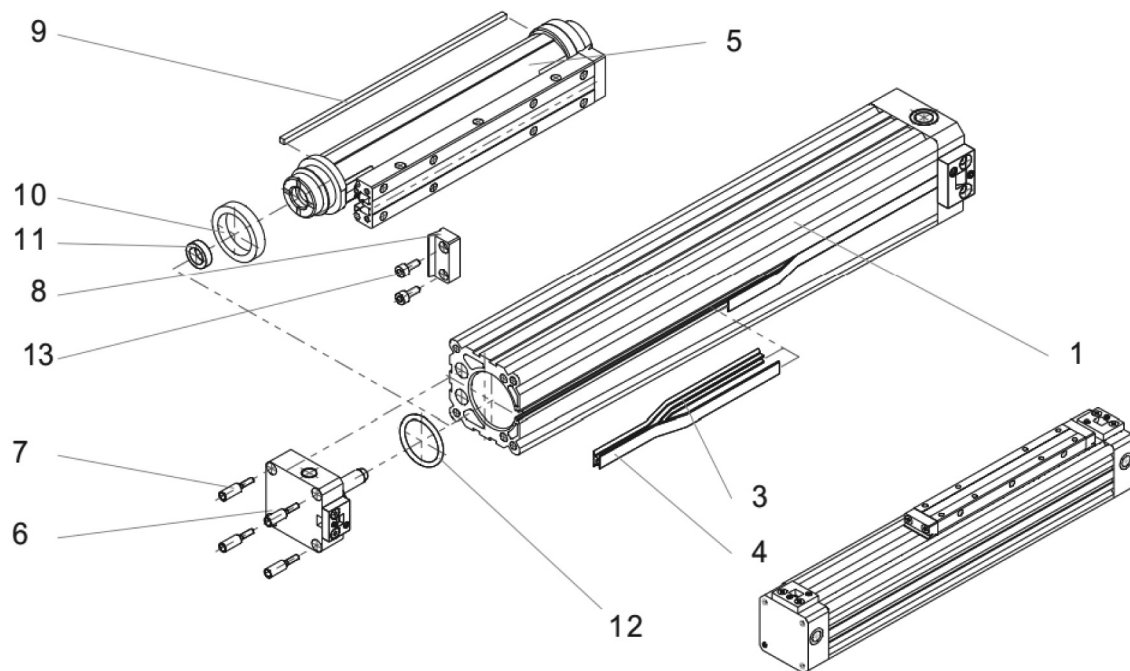
Ø mm	Force ($V_{max} ? 0,35$ m/s)			F (load in N)			Moments		
	Fx (N) 6 bar	Fy (N) 6 bar	Fz (N) 6 bar	0,75 m/s	1 m/s	1,5 m/s	Mx (Nm) Fy/Fz	My (Nm) Fx/Fz	Mz (Nm) Fx/Fy
18	140	370	370	100	58	26	3,5	6	6
25	270	800	800	280	160	65	10	20	20
32	440	1200	1200	510	300	140	25	45	45
40	680	1600	1600	1000	550	250	40	75	75
50	1060	2100	2100	1500	850	380	80	150	150
63	1680	2800	2800	2500	1400	610	110	250	250

External view of the Rodless guided cylinder



RODLESS CYLINDERS

Internal parts of the unguided rodless cylinder

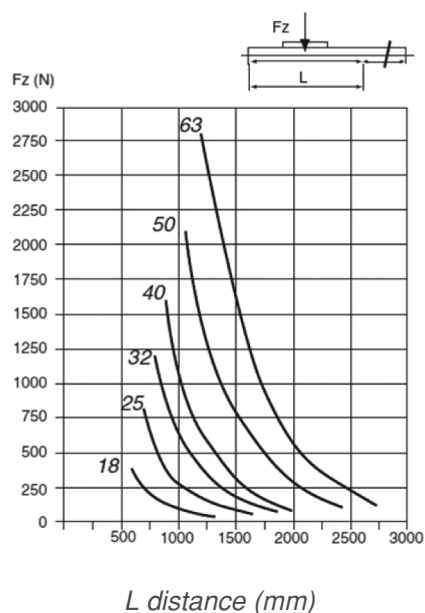


- 1. TUBE .. Al. Mg. Si. 0,5 al. anodized
- 3. SEALING STRIPE PA
- 4. COVER STRIPE Stainless steel
- 5. YOKE Al anodized / POM
- 6. END CAPS Al anodized
- 7. SPECIAL SCREW Zinc plated steel

- 8. HEAD WIPER POM
- 9. WIPER POM
- 10. PISTON SEAL PU
- 11. CUSHIONING RING NBR
- 12. O – RING NBR
- 13. SCREWS Zinc plated steel

Max. admissible deflections & INTERNAL VIEW

Fz at deflection of 0,5 mm



When using a long cylinder or applying heavy loads, the tube deflection is to be taken in to consideration. One or more middle support are to be used according to the admissible deflection.

Ex.... A cylinder $\varnothing 25$ mm should deflect by a max. of 0,5 mm when Applying a force F_z of 500 N. According to the diagram the cylinder can be 750 mm long. Longer cylinders must have a middle support.

SHORT STROKE SERIE (ISO 21287 & with SEEGER)



ISO 21287 SHORT STROKE SERIE

SEMAKMATIC serie of short stroke cylinders has two different version. One of them is ISO 21287 which is compleatly new and the other one is traditional with SEEGER serie.

ISO 21287 has a very wide range of short stroke cylinders. Single acting, double acting, through rod, non rotating, tandem and two different stroke are the range of ISO 21287.

Compleatly new designed aluminium profile is suitable for several sensor applications easily with a new shape of slot for the double surface.

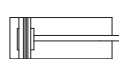
Min. diameter is Ø 20 mm and the max. Ø 100 mm
Min stroke is 10 mm and the max stroke is 50 mm for single acting, and 200 mm for double acting versions .

Traditional SEEGER serie has two different version which are double acting and single acting

Diameters of the with SEEGER serie for single acting Ø 12 Ø 100 mm. For the double acting diameters are Ø 12 Ø 100 mm



SHORT STROKE SERIE with SEEGER



SMS ... / ... CMIKS

Double acting magnetic

SMS ... / ... CMIKD

Double acting magnetic ANTIROTATING



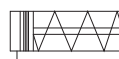
SM2 ... / ... CMIKS

Double acting magnetic TANDEM



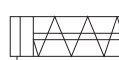
SM3 ... / ... / ... CMIKD

Double acting magnetic TWO STROKE



SMS ... / ... TMIKS

Single acting magnetic



SMS ... / ... TOIKS

Single acting magnetic



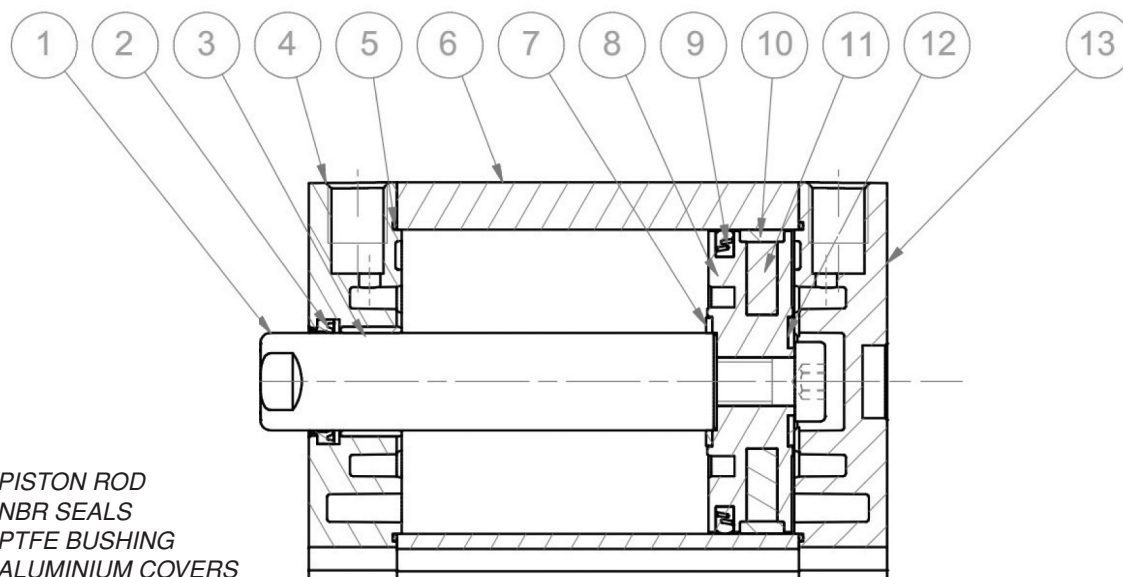
SM1 ... / ... CMIKS

Double acting magnetic THROUGH ROD

Min . stroke	: ISO 21287 & SEEGER serie for single acting and double acting 10 mm
Max. stroke	ISO 21287 & SEEGER serie for single acting 50 mm duple acting 200 mm
Versions	: ISO 21287, single & double acting, anti rotating, through rod two different stroke, tandem
Versions	: with SEEGER, single acting, double acting
Materials	
	Profile : Aluminium
	Piston rod : AISI 303
	Seals : NBR
	Bushing : Sintered Bronze
	Caps : Al. anodized and painted
Diameters (Ø)	: with SEEGER, Ø 12 / 16 / 20 / 25 / 32 / 40 / 50 / 63 / 80 / 100 mm ISO 21287, Ø 20 / 25 / 32 / 40 / 50 / 63 / 80 / 100
Applicable standart products	: Attachments of ISO 15552 & ISO GUIDING UNITS
Standart stroks	: 10 – 25 – 50 – 80 – 100 – 125 – 160 – 200 mm

SHORT STROKE SERIE (ISO 21287)

Short stroke serie (ISO 21287)



- 1. PISTON ROD
- 2 - 5 - 9 NBR SEALS
- 3. PTFE BUSHING
- 4 - 13 ALUMINIUM COVERS
- 6. ANODIZED ALUMINIUM TUBE
- 7 - 12 STATIC CUSHIONING
- 8. PISTON
- 10. PTFE GUIDE RING
- 11. RUBBER MAGNET

ALL THE SCREWS ARE ZINC COATED STEEL

ordering code for 2 wire sensor : SMSS5V0230ACDC0

ordering code for 3 wire PNP sensor : SMSS5V030PNPDC0

For the sensor details please see page 1.92

COD of THE OPTIONS for ISO 21287

CMIKS	DOUBLE ACTING / MAGNETIC
TMIKS	SINGLE ACTING / MAGNETIC
TOIKS	SINGLE ACTING / NON MAGNETIC
CMIKD	DOUBLE ACTING / MAGNETIC / ANTI ROTATING

COD of THE VERSIONS for ISO 21287

SMS	STANDART
SM1	THROUGH ROD
SM2	TANDEM
SM3	TWO DIFFERENT STROKE

Standart strokes : For single acting , 5 - 10 - 15 - 20 - 25 - 30 - 40 - 50 mm

For standart double acting, 5 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 80 - 100 mm

For version Non rotating, 25 - 50 - 100 - 125 - 150 - 200 mm

For version, SM1 - SM2 - SM3 25 - 50 - 100 mm

Non standart strokes : For the dimensions please see the related pages

Materials

Covers : Anodized aluminium

Piston rod : AISI 303 stainless steel

Seals : NBR

Bushing : Sintered Bronze

Profile : Aluminium

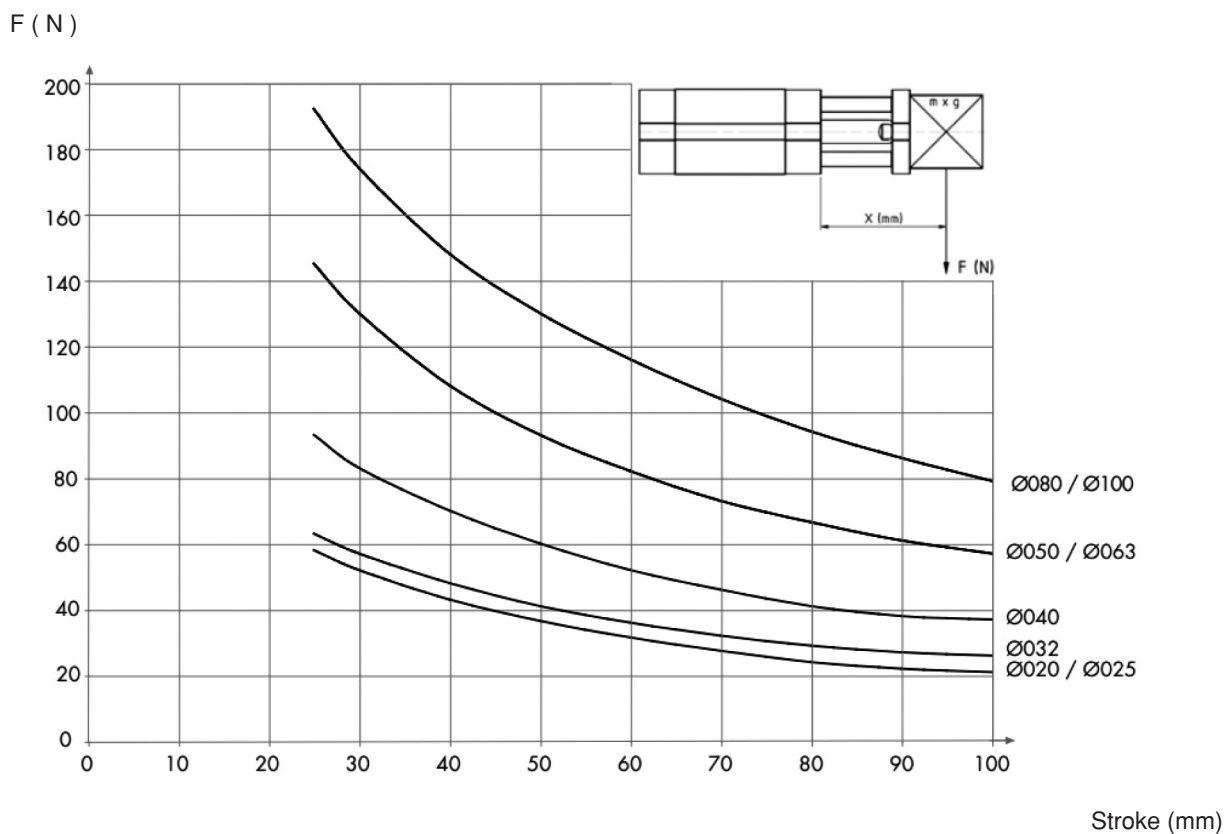
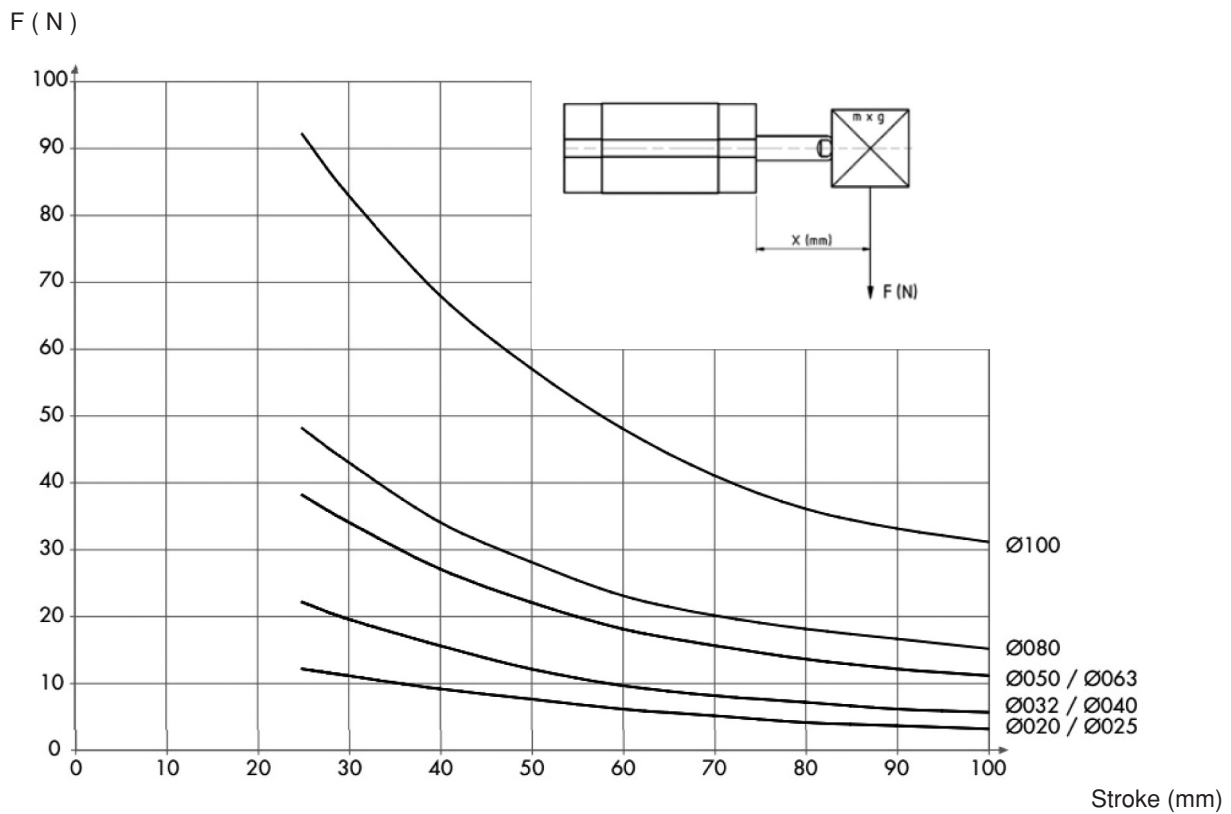
Diameters (Ø) : ISO 21287, Ø 20 / 25 / 32 / 40 / 50 / 63 / 80 / 100 mm

Fluid : Compressed air, filtered, non lubricated

Applicable standart products : Attachments of ISO 15552 & ISO GUIDING UNITS

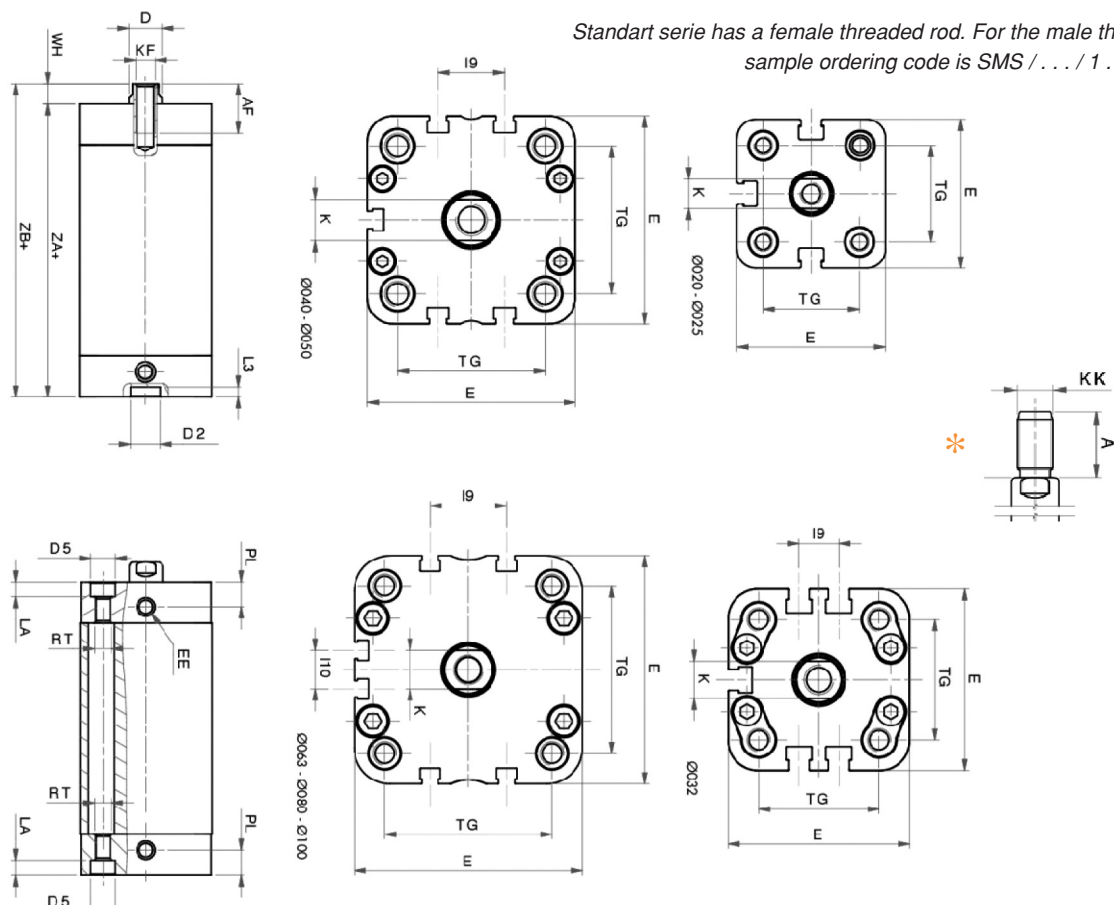
Screws : Zinc plated steel

Bending forces of the standart and non rotating serie



SHORT STROKE SERIE (ISO 21287)

ISO 21287 SSC Single acting (SMS ... / ... T . IKS)



Ø	A	AF	Ø D	Ø D2	Ø D5	E	EE	I9	I10	K
20	16	15	10	9	7,5	36	M5	...	...	8
25	16	15	10	9	7,5	40	M5	...	...	8
32	19	16	12	9	9	49	G1/8	10,8	...	10
40	19	16	12	9	9	54,5	G1/8	12,8	...	10
50	22	17	16	12	10,5	65,5	G1/8	21	...	13
63	22	17	16	12	10,5	77	G1/8	25,8	13	13
80	28	20	20	12	13,5	95,5	G1/8	30	18	17
100	28	20	25	12	13,5	113,5	G1/8	50	35	22

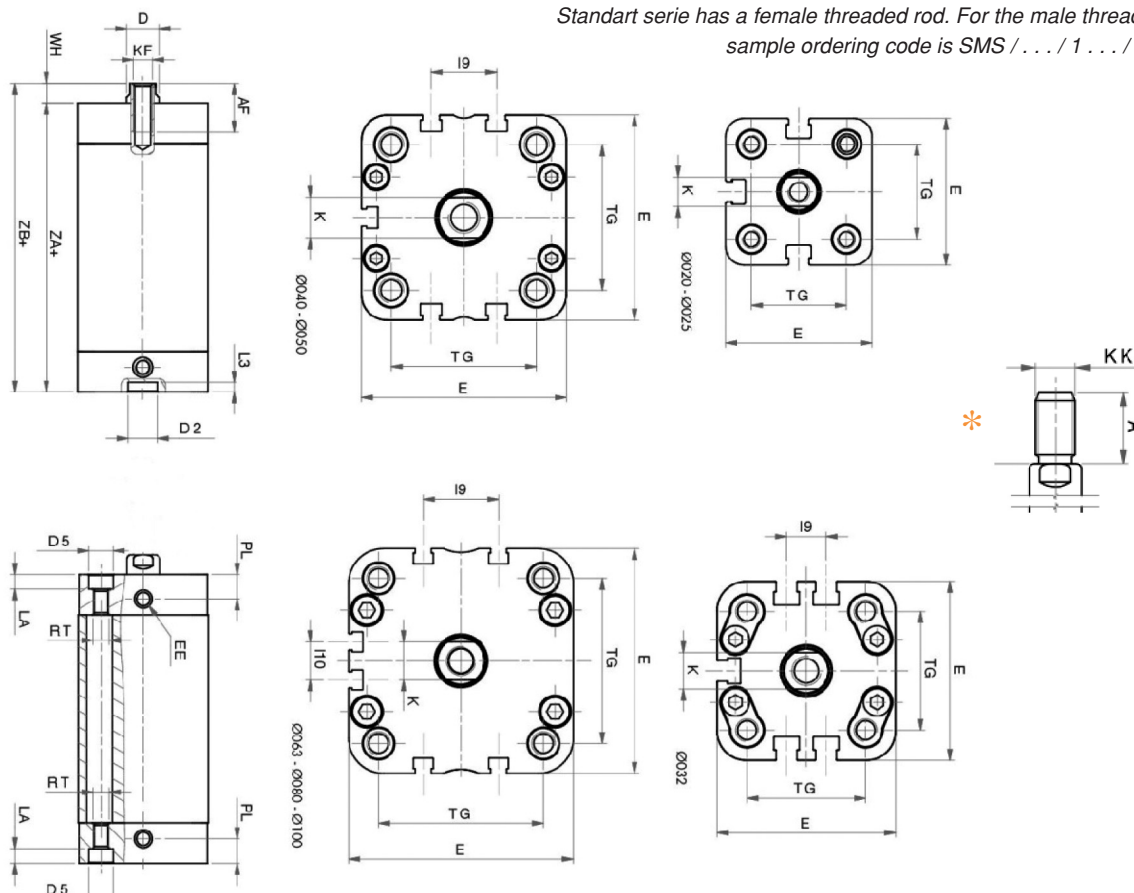
Ø	KF	KK	LA	L3	PL	RT	TG	WH	ZA+	ZB+
20	M6	M8	4,5	3	7,5	M5	22	6,5	37*	43,5*
25	M6	M8	4,5	3	7,5	M5	26	6	39*	45*
32	M8	M10x1,25	5	3	7,5	M6	32,5	6,5	44*	50,5*
40	M8	M10x1,25	5	3	8	M6	38	7	45*	52*
50	M10	M12x1,25	5	4	8	M8	46,5	8	45*	53*
63	M10	M12x1,25	5	4	7,5	M8	56,5	8	49*	57*
80	M12	M16x1,5	3	4	8	M10	72	9	54*	63*
100	M12	M16x1,5	3	4	10,5	M10	89	10	67*	77*

+ add stroke length

for stroke 40 – 50 mm of Ø 20 mm add (+) 10 mm , for Ø 25 , 32 , 40 , 50 , 63 add (+) 20 mm and for Ø 80 – 100 add (+) 30 mm

ISO 21287 SSC Double acting (SMS ... / ... CMIKS)

Standart serie has a female threaded rod. For the male threaded rod *
sample ordering code is SMS / ... / 1 ... / CMIKS



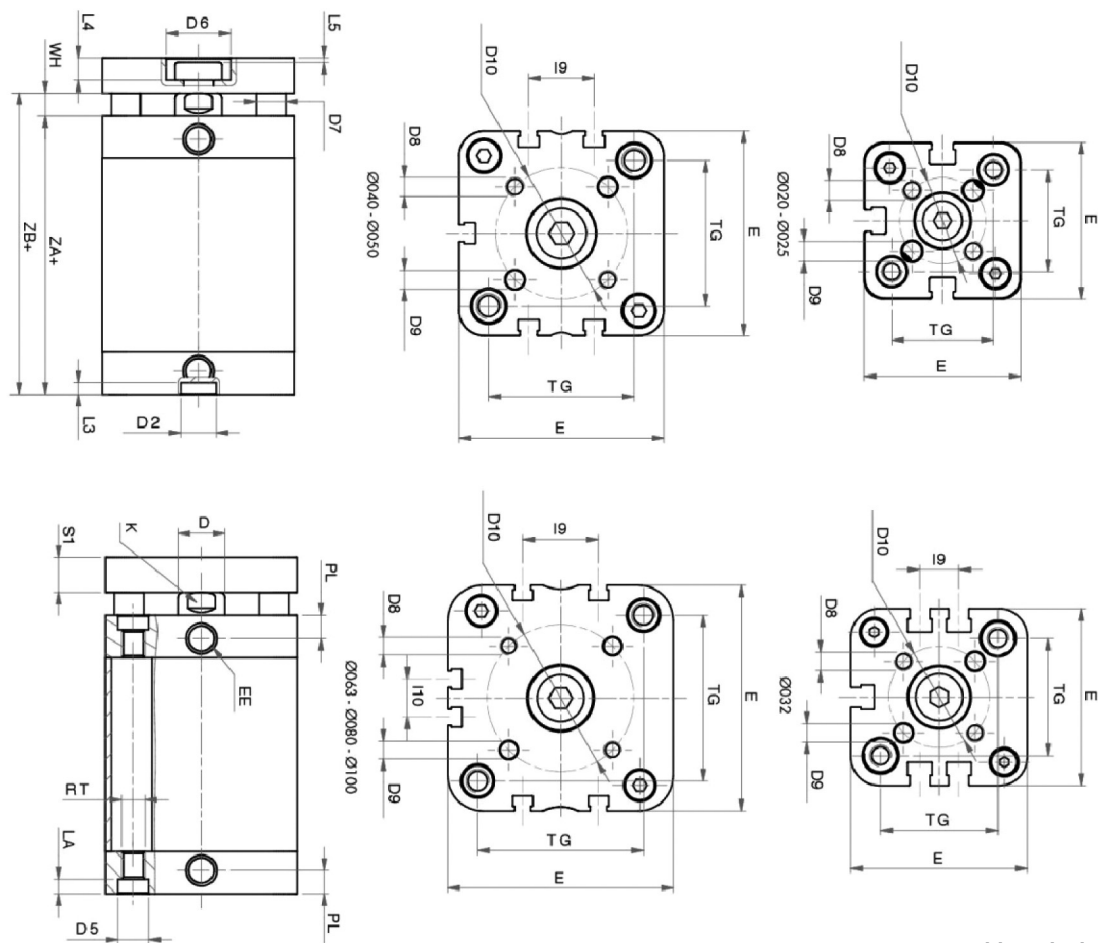
Ø	A	AF	Ø D	Ø D2	Ø D5	E	EE	I 9	I 10	K
20	16	15	10	9	7,5	36	M5	...	...	8
25	16	15	10	9	7,5	40	M5	...	...	8
32	19	16	12	9	9	49	G1/8	10,8	...	10
40	19	16	12	9	9	54,5	G1/8	12,8	...	10
50	22	17	16	12	10,5	65,5	G1/8	21	...	13
63	22	17	16	12	10,5	77	G1/8	25,8	13	13
80	28	20	20	12	13,5	95,5	G1/8	30	18	17
100	28	20	25	12	13,5	113,5	G1/8	50	35	22

Ø	KF	KK	LA	L3	PL	RT	TG	WH	ZA+	ZB+
20	M6	M8	4,5	3	7,5	M5	22	6,5	37	43,5
25	M6	M8	4,5	3	7,5	M5	26	6	39	45
32	M8	M10x1,25	5	3	7,5	M6	32,5	6,5	44	50,5
40	M8	M10x1,25	5	3	8	M6	38	7	45	52
50	M10	M12x1,25	5	4	8	M8	46,5	8	45	53
63	M10	M12x1,25	5	4	7,5	M8	56,5	8	49	57
80	M12	M16x1,5	3	4	8	M10	72	9	54	63
100	M12	M16x1,5	3	4	10,5	M10	89	10	67	77

+ add stroke length

SHORT STROKE SERIE (ISO 21287)

ISO 21287 SSC Non rotating (SM . . . / . . . CMIKD)



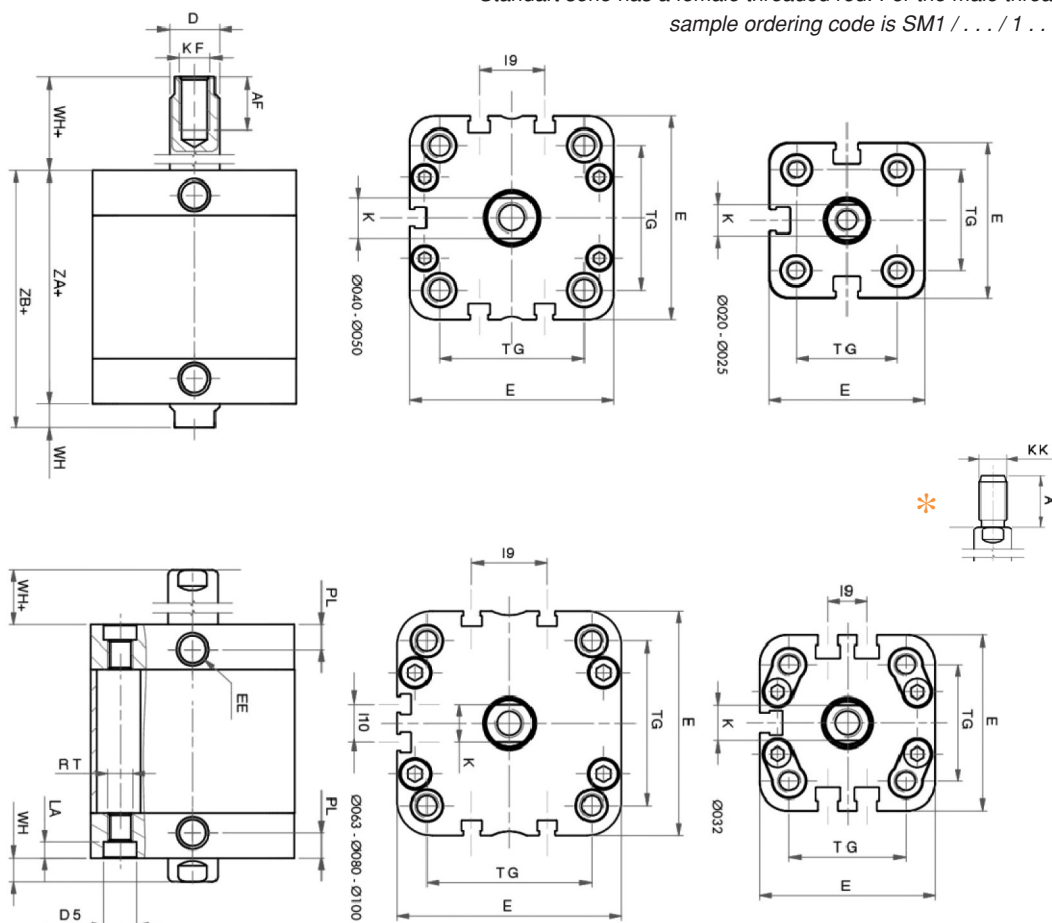
+ add stroke length

Ø	Ø D	Ø D2	Ø D5	Ø D6	Ø D7	D8	Ø D9	Ø D10	E	EE	I 9	I 10
20	10	9	7,5	11	5	M4	4	17	36	M5	...	...
25	10	9	7,5	14	6	M5	5	22	40	M5	...	...
32	12	9	9	17	6	M5	5	28	49	G1/8	10,8	...
40	12	9	9	17	8	M5	5	33	54,5	G1/8	12,8	...
50	16	12	10,5	22	10	M6	6	42	65,5	G1/8	21	...
63	16	12	10,5	22	10	M6	6	50	77	G1/8	25,8	13
80	20	12	13,5	28	14	M8	8	65	95,5	G1/8	30	18
100	25	12	13,5	30	14	M10	10	80	113,5	G1/8	50	35

Ø	K	LA	L3	L4	L5	PL	RT	S1	TG	WH	ZA+	ZB+
20	8	4,5	3	5	1	7,5	M5	8	22	6,5	37	43,5
25	8	4,5	3	5	1	7,5	M5	8	26	6	39	45
32	10	5	3	6,5	1,5	7,5	M6	10	32,5	6,5	44	50,5
40	10	5	3	6,5	1,5	8	M6	10	38	7	45	52
50	13	5	4	7,5	1,5	8	M8	12	46,5	8	45	53
63	13	5	4	7,5	1,5	7,5	M8	12	56,5	8	49	57
80	17	3	4	9	2	8	M10	14	72	9	54	63
100	22	3	4	10	3	10,5	M10	14	89	10	67	77

ISO 21287 SSC Through rod (SM1 ... / ... / ... IKS)

Standart serie has a female threaded rod. For the male threaded rod *
sample ordering code is SM1 / ... / 1 ... / ... IK.



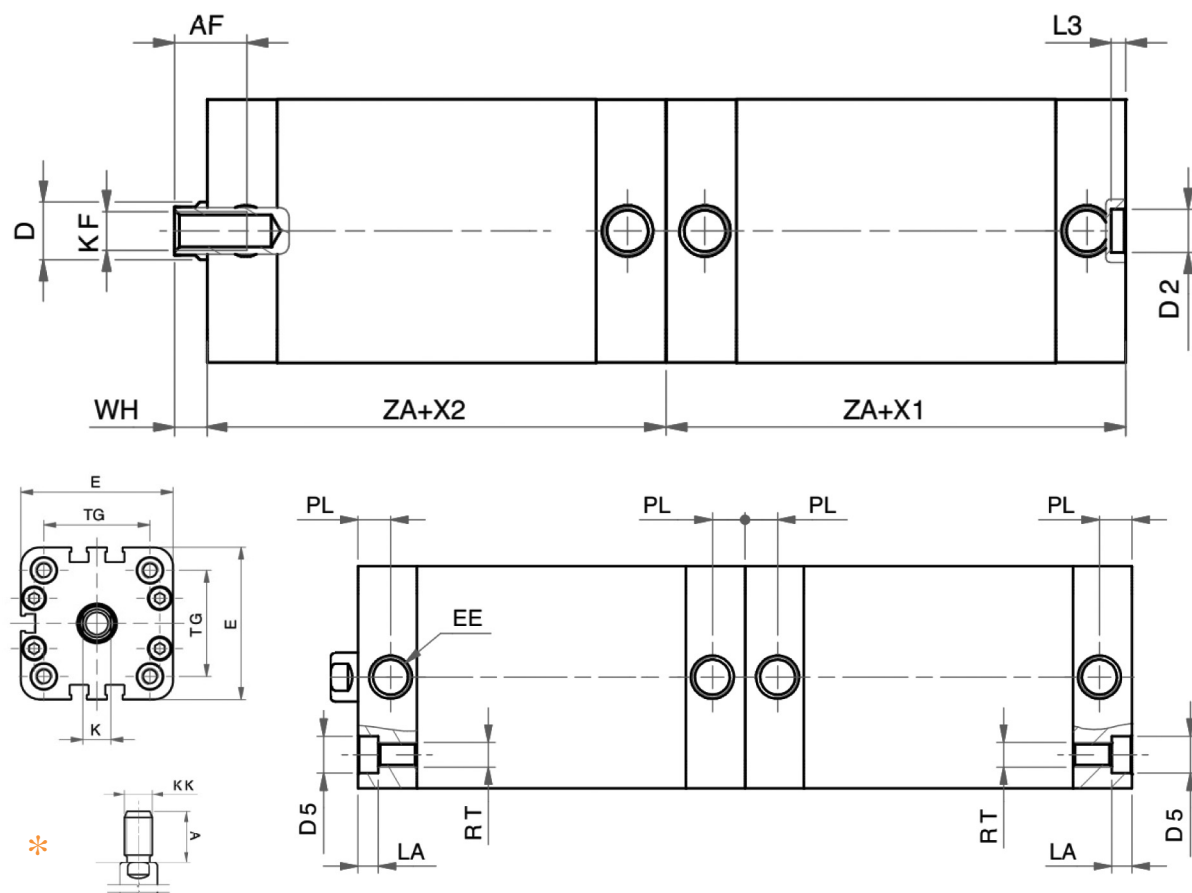
Ø	A	AF	Ø D	Ø D5	E	EE	I9	I 10	K	KF	KK	LA
20	16	15	10	7,5	36	M5	...	...	8	M6	M8	4,5
25	16	15	10	7,5	40	M5	...	...	8	M6	M8	4,5
32	19	16	12	9	49	G1/8	10,8	...	10	M8	M10x1,25	5
40	19	16	12	9	54,5	G1/8	12,8	...	10	M8	M10x1,25	5
50	22	17	16	10,5	65,5	G1/8	21	...	13	M10	M12x1,25	5
63	22	17	16	10,5	77	G1/8	25,8	13	13	M10	M12x1,25	5
80	28	20	20	13,5	95,5	G1/8	30	18	17	M12	M16x1,5	3
100	28	20	25	13,5	113,5	G1/8	50	35	22	M12	M16x1,5	3

Ø	PL	RT	TG	WH	WH+	ZA+	ZB+
20	7,5	M5	22	6,5	6,5	37	43,5
25	7,5	M5	26	6	6	39	45
32	7,5	M6	32,5	6,5	6,5	44	50,5
40	8	M6	38	7	7	45	52
50	8	M8	46,5	8	8	45	53
63	7,5	M8	56,5	8	8	49	57
80	8	M10	72	9	9	54	63
100	10,5	M10	89	10	10	67	77

+ add stroke length

SHORT STROKE SERIE (ISO 21287)

ISO 21287 SSC Tandem (SM2 ... / ... / CMIKS)



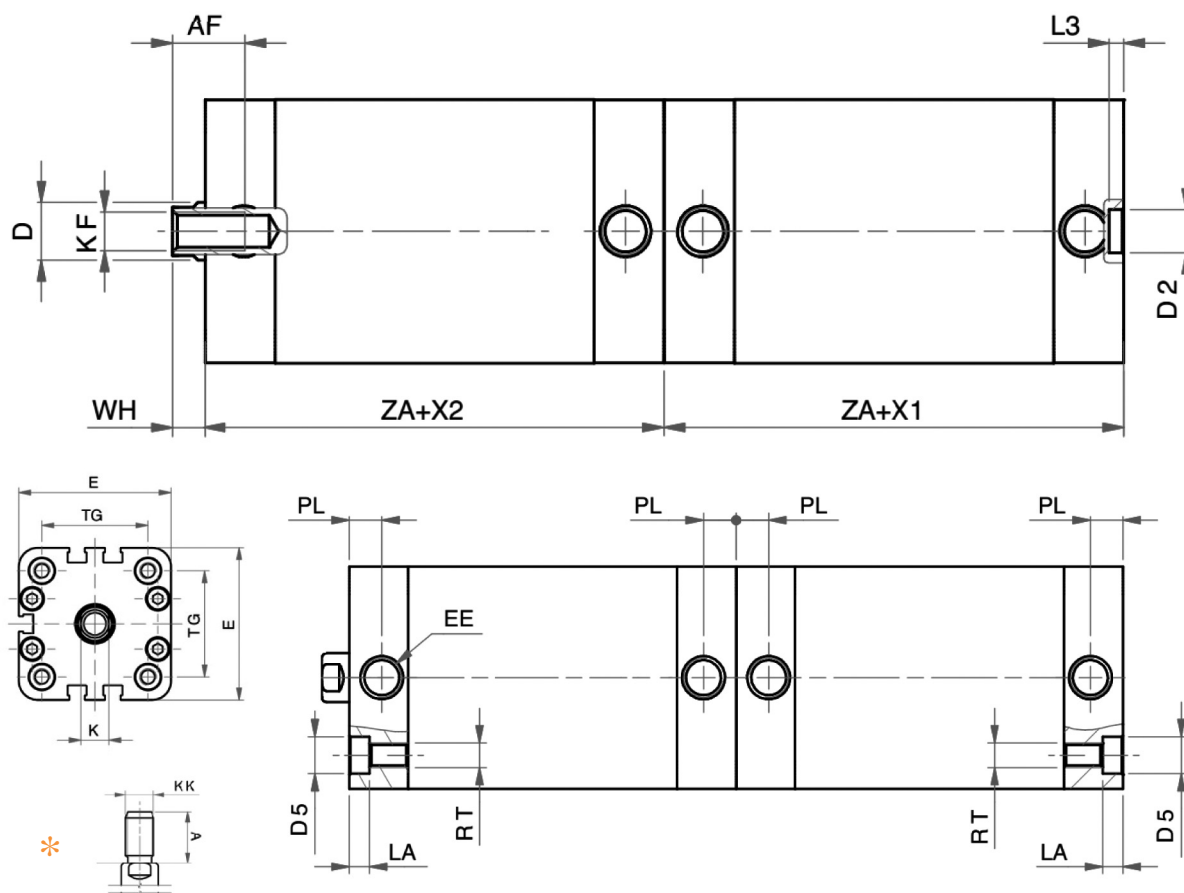
* Standart serie has a female threaded rod. For the male threaded rod sample ordering code is SM2 / ... / 1 ... / CMIKS

Ø	A	AF	ø D	ø D2	ø D5	E	EE	K	KF	KK	L3	LA
20	16	15	10	9	7,5	36	M5	8	M6	M8	3	4,5
25	16	15	10	9	7,5	40	M5	8	M6	M8	3	4,5
32	19	16	12	9	9	49	G1/8	10	M8	M10x1,25	3	5
40	19	16	12	9	9	54,5	G1/8	10	M8	M10x1,25	3	5
50	22	17	16	12	10,5	65,5	G1/8	13	M10	M12,x1,25	4	6,5
63	22	17	16	12	10,5	77	G1/8	13	M10	M12,x1,25	4	5
80	28	20	20	12	13,5	95,5	G1/8	17	M12	M16x1,5	4	3
100	28	20	25	12	13,5	113,5	G1/8	22	M12	M16x1,5	4	3

Ø	PL	RT	TG	WH	X1 = X2	ZA+
20	7,5	M5	22	6,5		37
25	7,5	M5	26	6	s	39
32	7,5	M6	32,5	6,5	t	44
40	8	M6	38	7	r	45
50	8	M8	46,5	8	o	45
63	7,5	M8	56,5	8	k	49
80	8	M10	72	9	e	54
100	10,5	M10	89	10	1	67

+ for profile dimensions please see the related pages

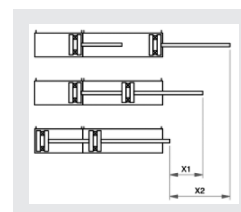
ISO 21287 SSC Two Stroke (SM3 ... / ... / ... / CMIKS)



* Standart serie has a female threaded rod. For the male threaded rod sample ordering code is SM3 / ... / 1 ... / CMIKS

Ø	A	AF	Ø D	Ø D2	Ø D5	E	EE	K	KF	KK	L3	LA
20	16	15	10	9	7,5	36	M5	8	M6	M8	3	4,5
25	16	15	10	9	7,5	40	M5	8	M6	M8	3	4,5
32	19	16	12	9	9	49	G1/8	10	M8	M10x1,25	3	5
40	19	16	12	9	9	54,5	G1/8	10	M8	M10x1,25	3	5
50	22	17	16	12	10,5	65,5	G1/8	13	M10	M12x1,25	4	6,5
63	22	17	16	12	10,5	77	G1/8	13	M10	M12x1,25	4	5
80	28	20	20	12	13,5	95,5	G1/8	17	M12	M16x1,5	4	3
100	28	20	25	12	13,5	113,5	G1/8	22	M12	M16x1,5	4	3

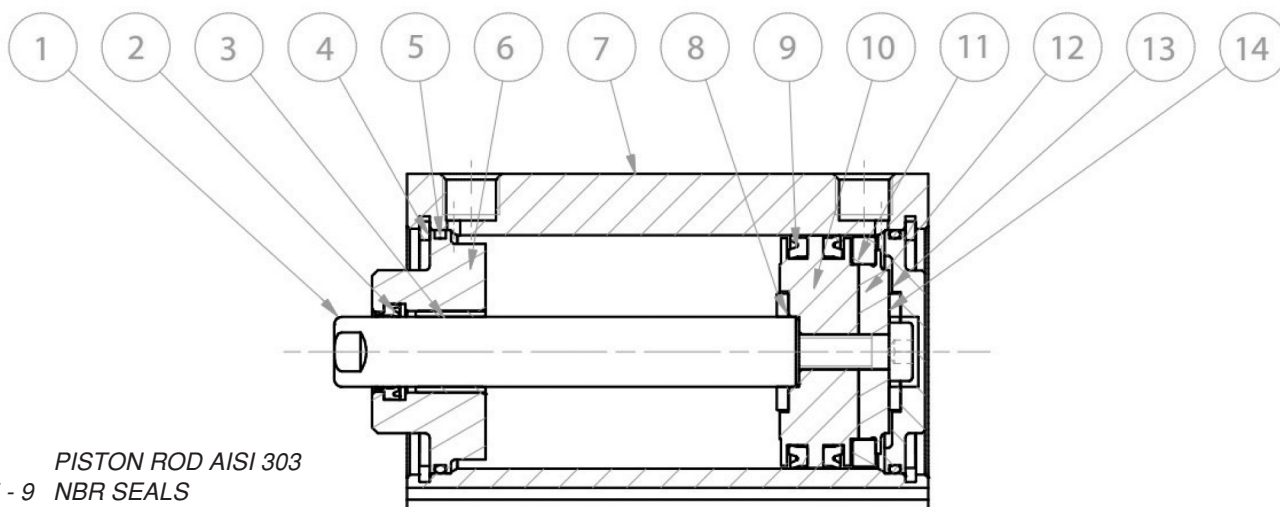
Ø	PL	RT	TG	WH	X1	X2	ZA+
20	7,5	M5	22	6,5			37
25	7,5	M5	26	6	s	s	39
32	7,5	M6	32,5	6,5	t	t	44
40	8	M6	38	7	r	r	45
50	8	M8	46,5	8	o	o	45
63	7,5	M8	56,5	8	k	k	49
80	8	M10	72	9	1	2	54
100	10,5	M10	89	10			67



+ for profile dimensions please see the related pages

SHORT STROKE SERIE (WITH SEEGER)

Short stroke serie (with SEEGER)



- 1. PISTON ROD AISI 303
- 2 - 5 - 9 NBR SEALS
- 3. STEEL - PTFE BUSHING
- 4. SEEGER (STEEL)
- 6 - 13 COVERS (BRASS and ANODIZED ALUMINIUM)
- 7. BODY (ALUMINIUM)
- 8 - 14 CUSHIONING (elastic)
- 10 - 12 PISTON (DELFIN - ALUMINIUM)
- 11. RUBBER MAGNET

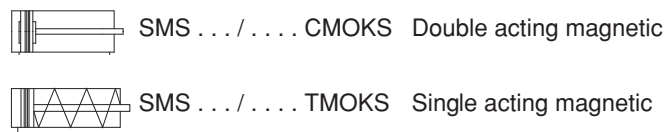
COD of THE OPTIONS for WITH SEEGER SERIE

- CMOKS** DOUBLE ACTING / MAGNETIC
- TMOKS** SINGLE ACTING / MAGNETIC

ordering code for 2 wire sensor : SMSS5V0230ACDC0

ordering code for 3 wire PNP sensor : SMSS5V030PNPDC0

For the sensor details please see page 1.90



Standart strokes : For single acting, 5 - 10 - 15 - 20 - 25 - 30 - 40 - 50 mm

For standart double acting, 5 - 10 - 15 - 20 - 25 - 30 - 40 - 50 - 60 - 80 - 100 mm

Working pressure : For single acting, from 2 to 10 bar / For double acting, from 1 to 10 bar

Working temperature : - 10 °C / + 50 °C

Non standart strokes : For the dimensions please see the related pages

Materials

Covers : From Ø 12 to Ø 25 mm brass / From Ø 32 to Ø 100 mm Aluminium

Piston rod : AISI 303 stainless steel

Seals : NBR

Bushing : Steel + PTFE

Profile : Aluminium

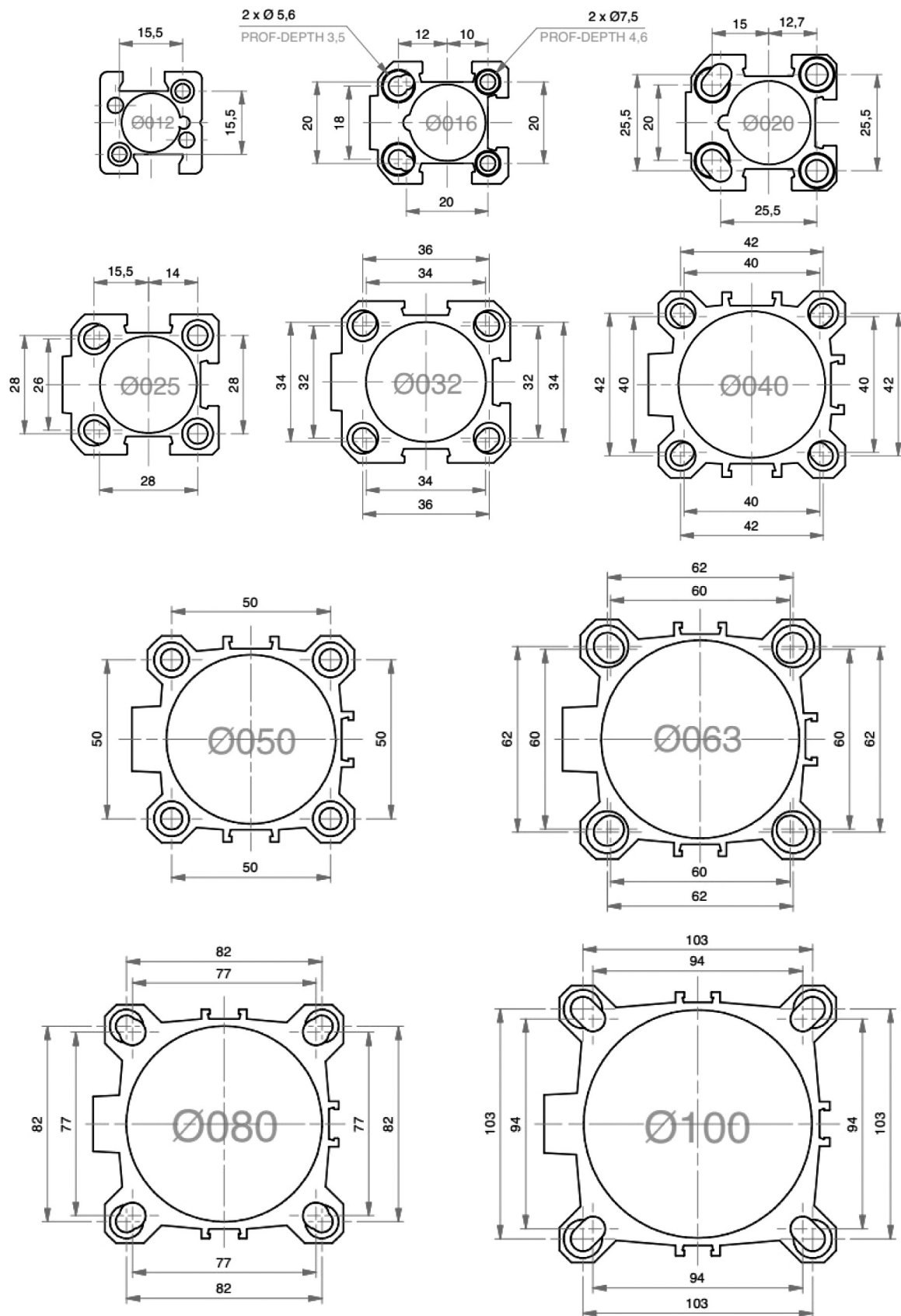
Diameters (Ø) : Ø 12 / 16 / 20 / 25 / 32 / 40 / 50 / 63 / 80 / 100 mm

Fluid : Compressed air, filtered, non lubricated

Static Cushioning : Elastic

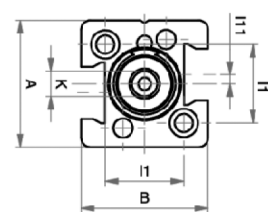
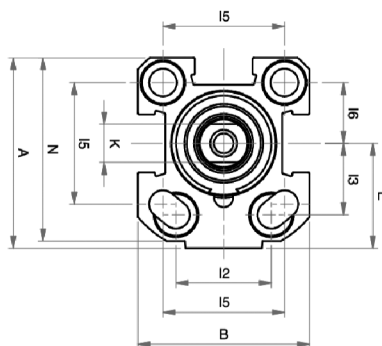
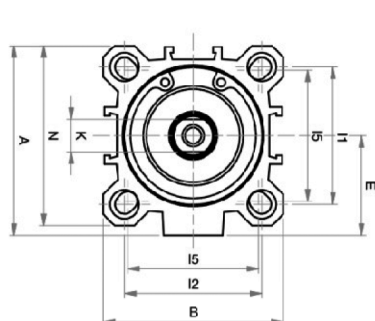
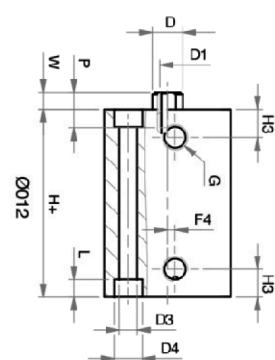
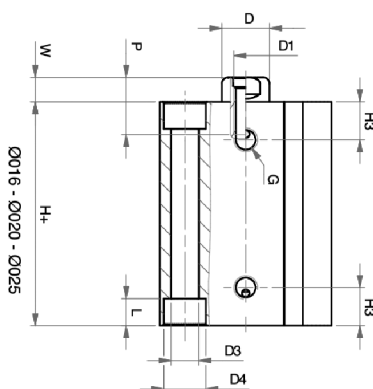
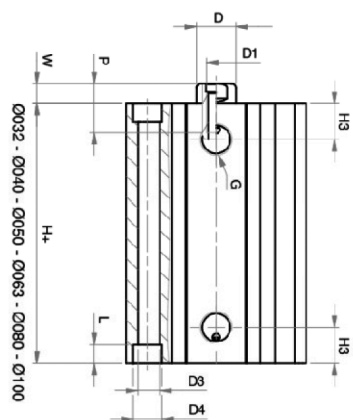
Spring for single acting : Steel

Dimensions of the SEEGER serie short stroke cylinders profile



SHORT STROKE SERIE (WITH SEEGER)

SSC Single acting (SMS ... / ... TMOKS)



+ add stroke length

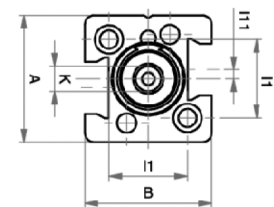
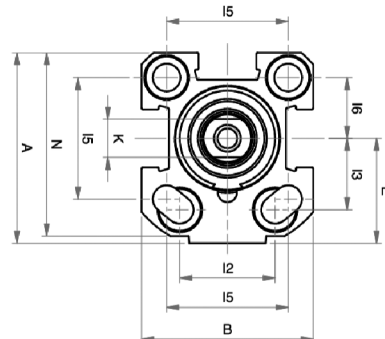
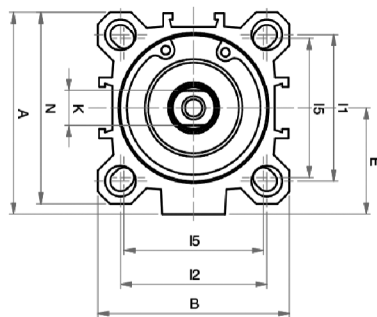
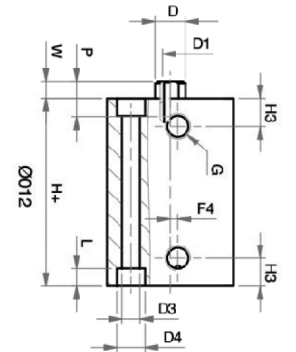
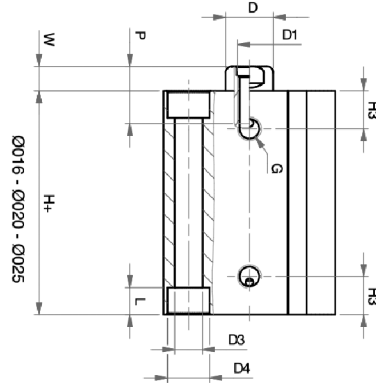
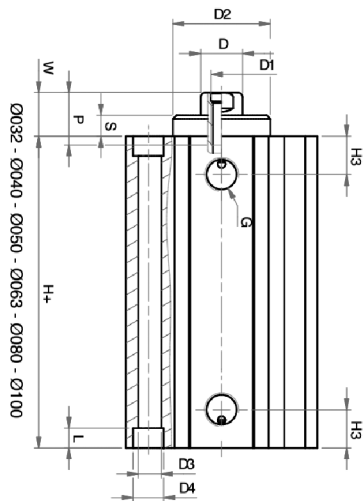
Ø	A	B	Ø D	D1	Ø D3	Ø D4	E	G	H+	H3	I 1	I 2
12	25	25	6	M3	3,7	5,6	...	M5	27	5,5	15,5	...
16	34	30	8	M4	**	**	19	M5	32*	8	...	18
20	40	36	10	M5	5,8	9	22	M5	32*	8	...	20
25	44,5	40	10	M5	5,8	9	24,5	G1/8	38,5*	10,5	...	26
32	51	46	12	M6	5,8	9	27	G1/8	39,5*	11,5	36	32
40	58	55	12	M6	5,8	9	30,5	G1/8	39,5*	11	42	42
50	70	65	16	M8	6,8	11	37,5	G1/8	39,5*	11,5	50	50
63	89	80	16	M8	9	14	46	G1/8	42*	11	62	62
80	105	100	20	M10	9	14	55	G1/4	46*	14	82	82
100	131	124	25	M12	11	17,2	69	G1/4	56*	16	103	103

Ø	I 3	I 5	I 6	K	L	L1	N	P	W
12	...	...	...	5	3,5	...	...	6	3,5
16	12	20	10	6	4,6	3,5	32	8	4,5
20	15	25,5	12,7	8	5,7	5,7	38,5	10	4,5
25	15,5	28	14	8	5,7	5,7	42	10	5,5
32	...	34	...	10	5,7	...	48	12	5,5
40	...	40	...	10	5,7	...	55	12	6,5
50	...	50	...	13	6,8	...	65	12	7,5
63	...	60	...	13	8,8	...	80	14	6,5
80	...	77	...	17	9	...	100	15	8
100	...	94	...	22	11	...	124	20	10

* For stroke 25 mm of the Ø 016 mm and Ø 020 mm, add (+) 6 mm and for Ø 25 mm add (+) 1 mm

* For stroke 040 and 050 mm of the Ø 32 Ø 100 mm add (+ 10 mm)

SSC Double acting (SMS ... / CMOKS)



+ add stroke length

Ø	A	B	Ø D	D1	Ø D2	Ø D3	Ø D4	E	G	H+	H3	I 1
12	25	25	6	M3	...	3,7	5,6	...	M5	27	5,5	15,5
16	34	30	8	M4	...	**	**	19	M5	32*	8	...
20	40	36	10	M5	...	5,8	9	22	M5	32*	8	...
25	44,5	40	10	M5	...	5,8	9	24,5	G1/8	38,5*	10,5	...
32	51	46	12	M6	24,5	5,8	9	27	G1/8	39,5	11,5	36
40	58	55	12	M6	28	5,8	9	30,5	G1/8	39,5	11	42
50	70	65	16	M8	34	6,8	11	37,5	G1/8	39,5	11,5	50
63	89	80	16	M8	38,5	9	14	46	G1/8	42	11	62
80	105	100	20	M10	44	9	14	55	G1/4	46	14	82
100	131	124	25	M12	56	11	17,2	69	G1/4	56	16	103

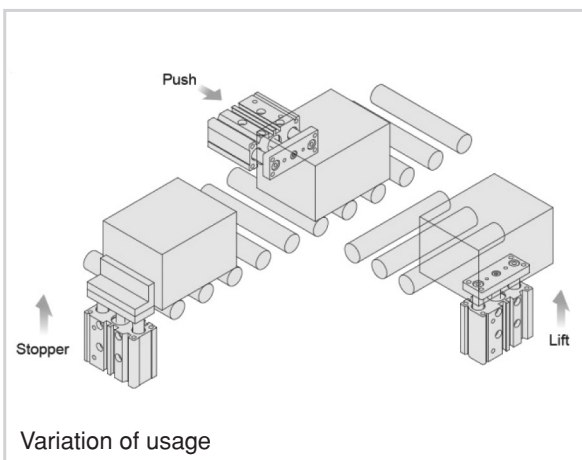
Ø	I 2	I 3	I 5	I 6	K	L	LI	H	P	S	W
12	...	...	...	...	5	3,5	...	...	6	...	3,5
16	18	12	20	10	6	4,6	3,5	32	8	...	4,5
20	20	15	25,5	12,7	8	5,7	5,7	38,5	10	...	4,5
25	26	15,5	28	14	8	5,7	5,7	42	10	...	5,5
32	32	...	34	...	10	5,7	...	48	12	5	11
40	42	...	40	...	10	5,7	...	55	12	6	12,5
50	50	...	50	...	13	6,8	...	65	12	6	13,5
63	62	...	60	...	13	8,8	...	80	14	8	15
80	82	...	77	...	17	9	...	100	15	10	18
100	103	...	94	...	22	11	...	124	20	10,5	20,5

* Longer then 25 mm strokes (25 mm ≥) of the Ø 016 mm and Ø 020 mm, add (+) 6 mm and for Ø 25 mm add (+) 1 mm

COMPACT SERIE with GUIDING UNIT



- ❑ Environmental component without pollutants.
- ❑ Use standart tool maintain piston rod.
- ❑ Light weight / save resources.
- ❑ Higher withstand load performance than conventional products.
- ❑ Sensor can be mounted on two sides.
- ❑ Piston speed range between 50 – 200 mm / sec.
- ❑ Suitable for high speed applications.
- ❑ Rubber bumper on both hands.



ORDERING CODE

ordering code with spherical bearing : SMS . . . / CMOKI

ORDERING CODE FOR SENSOR

ordering code for 2 wire sensor : SMSS5V0230ACDC0

ordering code for 3 wire PNP sensor : SMSS5V030PNPDC0

For the sensor details please see page 1.92

For Ø 16 – 25 mm min. stroke is 30 mm

For Ø 32 – 40 – 50 – 63 mm min stroke is 25 mm

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Non cushioned, Double acting

Materials

Guide plate : Steel (white galvanized)

Body : Anodized aluminium

Seals : Nbr seals

Bush : Spherical bearings

Piston Rod : C45 Chromed steel

Guide rods : Hardened steel for spherical bearing application

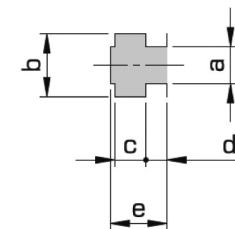
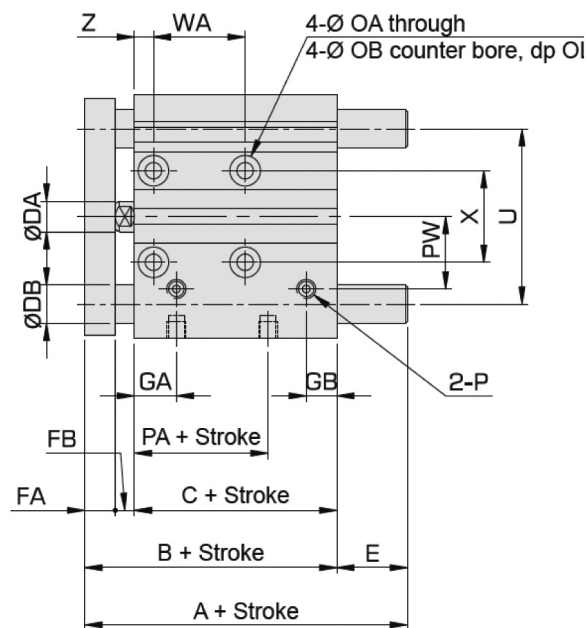
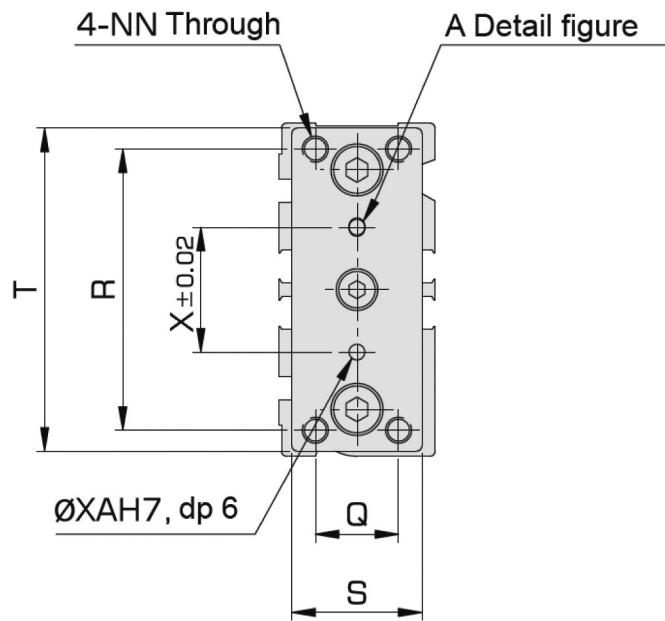
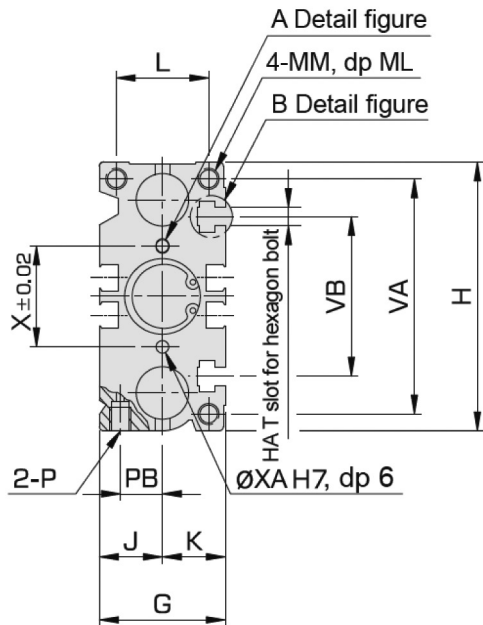
Available series : With spherical bearing

Standart diameters : Ø 16 mm – Ø 25 mm – Ø 32 mm – Ø 40 mm – Ø 50 mm – Ø 63 mm

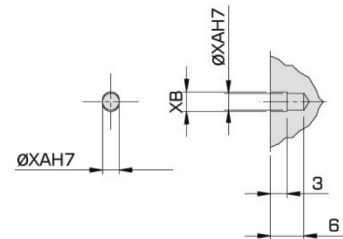
Standart strokes : 25 mm - 30 mm – 50 mm – 75 mm – 100 mm – 150 mm – 200 mm

COMPACT SERIE with GUIDING UNIT

DIMENSIONS for Ø 16 mm – 25 mm



B Detail figure, scale 2:1



A Detail figure, scale 2:1

Ø	a	b	c	d	e
16	4,4	7,4	3,7	2,5	6,7
25	5,4	8,4	4,5	3	8,2

Ø	A (+ stroke)			DB	E		
	30	50 - 75	100		30	50 - 75	100
16	49,0	65,0	65,0	8,0	3,0	19,0	49,0
25	69,5	85,5	85,5	13,0	16,0	32,0	32,0

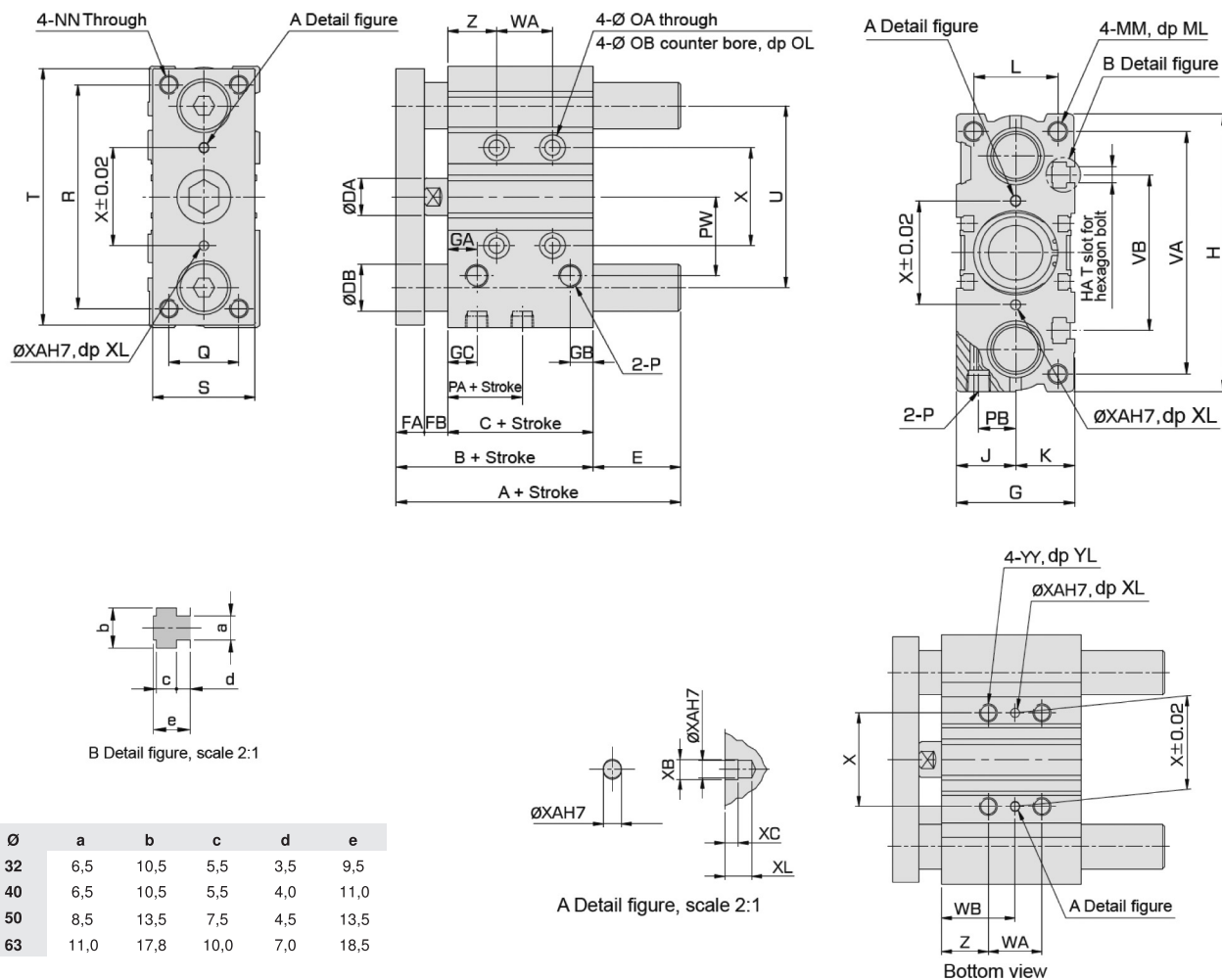
Ø	WA			WB			MM	NN	YY	P
	30	50 - 75	100	30	50 - 75	100				
16	24	44	44	17	27	27	M5x0,8	M5x0,8	M5x0,8	M5x0,8
25	24	44	44	29	39	39	M6x1,0	M6x1,0	M6x1,0	Rc1/8

Ø	Q	R	S	T	U	VA	VB	X	XA	XB	YL	Z	OL	PA	PB	PW
16	16	54	25	62	46	56	38	24	3	3,5	10	5	4,5	15	10	19
25	26	78	38	91	64	82	50	34	4	4,5	12	17	5,5	12,5	13,5	28,5

Ø	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	ML	OA	OB
16	46	33	8	8	5	30	11	9,5	64	M4	15	15	22	12	4,3	8
25	53,5	37,5	12	11	5	42	11,5	11	93	M5	21	21	30	15	5,3	9,5

COMPACT SERIE with GUIDING UNIT

DIMENSIONS for Ø 32 mm – 40 mm - 50 mm - 63 mm



Ø	a	b	c	d	e
32	6,5	10,5	5,5	3,5	9,5
40	6,5	10,5	5,5	4,0	11,0
50	8,5	13,5	7,5	4,5	13,5
63	11,0	17,8	10,0	7,0	18,5

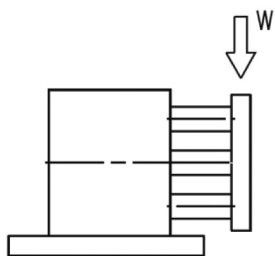
Ø	A			DB	E			YY	P	WA			WB			MM
	25 - 50	75 - 100	150 - 200		25 - 50	75 - 100	150 - 200			25	50 - 100	150 - 200	25	50 - 100	150 - 200	
32	81	98	118	16	21,5	38,5	58,5	M8x1,25	Rc1/8	24	48	124	33	45	83	M8x1,25
40	81	98	118	16	15	32	52	M8x1,25	Rc1/8	24	48	124	34	46	84	M8x1,25
50	93	114	134	20	21	42	62	M10x1,5	Rc1/4	24	48	124	36	48	86	M10x1,5
63	93	114	134	20	16	37	57	M10x1,5	Rc1/4	28	52	128	38	50	88	M10x1,5

Ø	R	S	T	U	VA	VB	X	XA	XB	XC	XL	YL	Z	ML	OA	OB	OL
32	96	44	110	78	98	63	42	4	4,5	3	6	16	21	20	6,6	11	7,5
40	104	44	118	86	106	72	50	4	4,5	3	6	16	22	20	6,6	11	7,5
50	130	60	146	110	130	92	66	5	6	4	8	20	24	22	8,6	14	9,5
63	130	70	158	124	142	110	80	5	6	4	8	20	24	22	8,6	14	9,5

Ø	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	PA	GC	PB	PW	Q
32	59,5	37,5	16	12	10	48	12,5	11,5	112	M6	24	24	34	7	12,5	15	34	30
40	66	44	16	12	10	54	14	12	120	M6	27	27	40	13	14	18	38	30
50	72	44	20	16	12	64	14	13	148	M8	32	32	46	9	12	21,5	47	40
63	77	49	20	16	12	78	16,5	14	162	M10	39	39	58	14	16,5	28	58	50

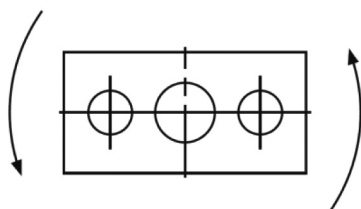
COMPACT SERIE with GUIDING UNIT

MAX. APPLICABLE LOADS (kg.)



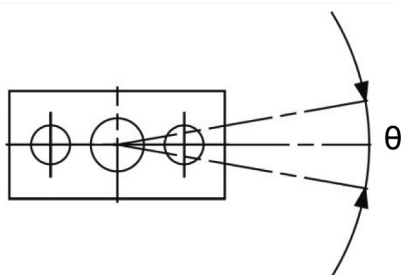
Ø mm / stroke	30 mm	50 mm	75 mm	100 mm	150 mm
16	3,2	2,8	2,5	1,1	
25	5,2	4,5	3,8	2,5	1,5
32	7,2	5,8	4,3	3,2	2,4
40	8,4	6,5	5,4	4,3	3,1
50	9,0	7,3	6,2	5,1	4,0
63	9,8	7,8	6,9	5,4	4,8

MAX. APPLICABLE TORQUE (Nm)



Ø mm / stroke	30 mm	50 mm	75 mm	100 mm	150 mm	200 mm
16	0,59	0,86	0,65	0,52		
25	2,11	3	2,38	1,97	1,78	1,41
32	5,95	4,89	5,11	4,51	5,79	4,93
40	6,55	5,39	5,62	4,96	6,38	5,43
50	9,71	7,62	9,83	8,74	10,7	9,12
63	10,2	8,48	11	9,74	11,9	10,2

NON ROTATING ACCURACY of PLATE (θ°)

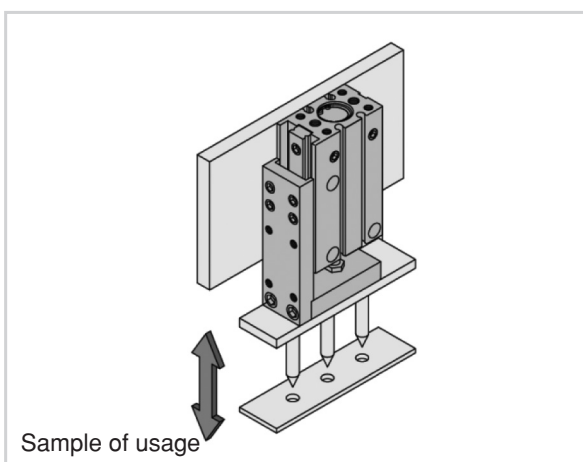


Ø mm	θ
16	+/- 0,10 °
25	+/- 0,09 °
32	+/- 0,08 °
40	+/- 0,08 °
50	+/- 0,06 °
63	+/- 0,06 °

COMPACT SERIE with SIDE GUIDING UNIT



- ☐ Miniature linear guided cylinder with max. 50 mm stroke.
- ☐ Hard anodized aluminium body.
- ☐ High precision linear guide with great strenght.
- ☐ Three directions for mounting.
- ☐ Ø 4 mm sensor can be mounted on two sides.
- ☐ Piston speed range between 50 – 200 mm / sec.
- ☐ Suitable for high speed applications.
- ☐ Rubber bumper on both hands.



ORDERING CODES

ordering code for Ø 10 mm : SMS010 / CMOYK
 ordering code for Ø 20 mm SMS020 : / CMOYK

ORDERING CODE FOR SENSOR

ordering code for 2 wire sensor : SMSS5V0115ACDC1
 (TYPE 1)

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Non cushioned, Double acting

Materials

Guide plate : Anodized aluminium

Body : Anodized aluminium

Seals : Nbr seals

Guide : Linear mini bearing guide

Piston Rod : Hard Chromed steel

Guide profiles : Hardened aluminium

Magnet : Synthetic rubber

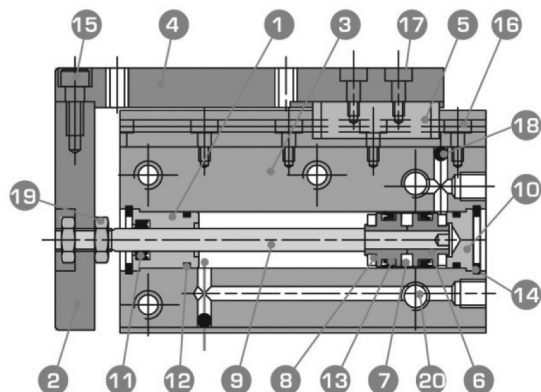
Standart diameters : Ø 10 mm – Ø 20 mm

Standart strokes : 10 mm - 30 mm – 50 mm

COMPACT SERIE with SIDE GUIDING UNIT

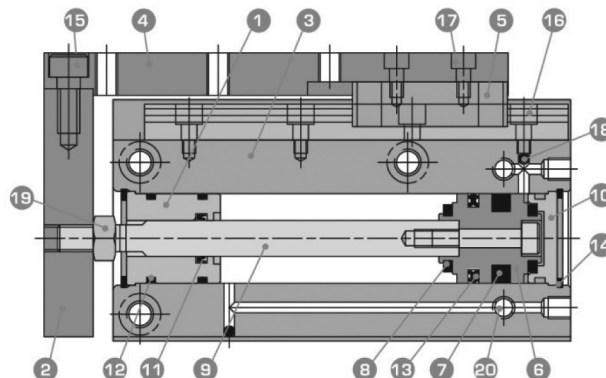
INTERNAL PARTS for Ø 10 mm – 20 mm

Ø 10 mm



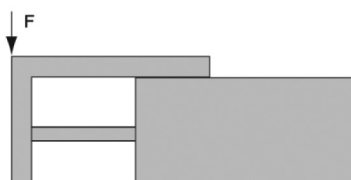
1. FRONT END COVER hard anodized aluminium
2. FRONT CONNECTING PLATE hard anodized aluminium
3. BARREL hard anodized aluminium alloy
4. SIDE END PLATE hard anodized aluminium alloy
5. MINI LINEER GUIDE
6. PISTON Brass / aluminium alloy
7. MAGNET sythetic rubber
8. BUMPER pu.
9. PISTON ROD Cr. Plated steel
10. REAR END COVER Brass / Aluminium alloy

Ø 20 mm



11. PISTON ROD SEAL nbr
12. END COVER SEAL nbr
13. PISTON SEAL nbr
14. SNAP RING carbon steel
15. HEAD CAP SCREW carbon steel
16. HEAD CAP SCREW carbon steel
17. HEAD CAP SCREW carbon steel
18. LONG STEEL ALLOY carbon steel
19. NUT brass
20. SCREW steel
21. WASHER stainless steel

APPLICABLE FORCES F max. (Kg.)



Ø mm / stroke	10 mm	30 mm	50 mm
10	0,3	0,2	0,1
20	0,4	0,3	0,2

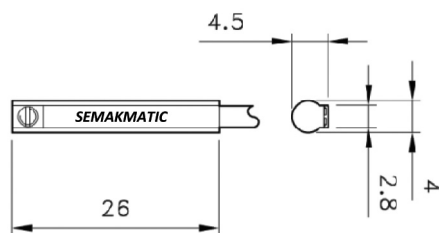
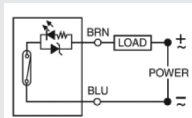
Sample : Ø 20 with max. 50 mm stroke ,
the vertical load can be max. 200 gr. (0,2 kg.)
with 100 mm / sec.

Sample : Ø 20 with max. 30 mm stroke
the vertical load can be max. 300 gr.
with 100 mm / sec.

TYPE 1 SENSOR



TYPE 1

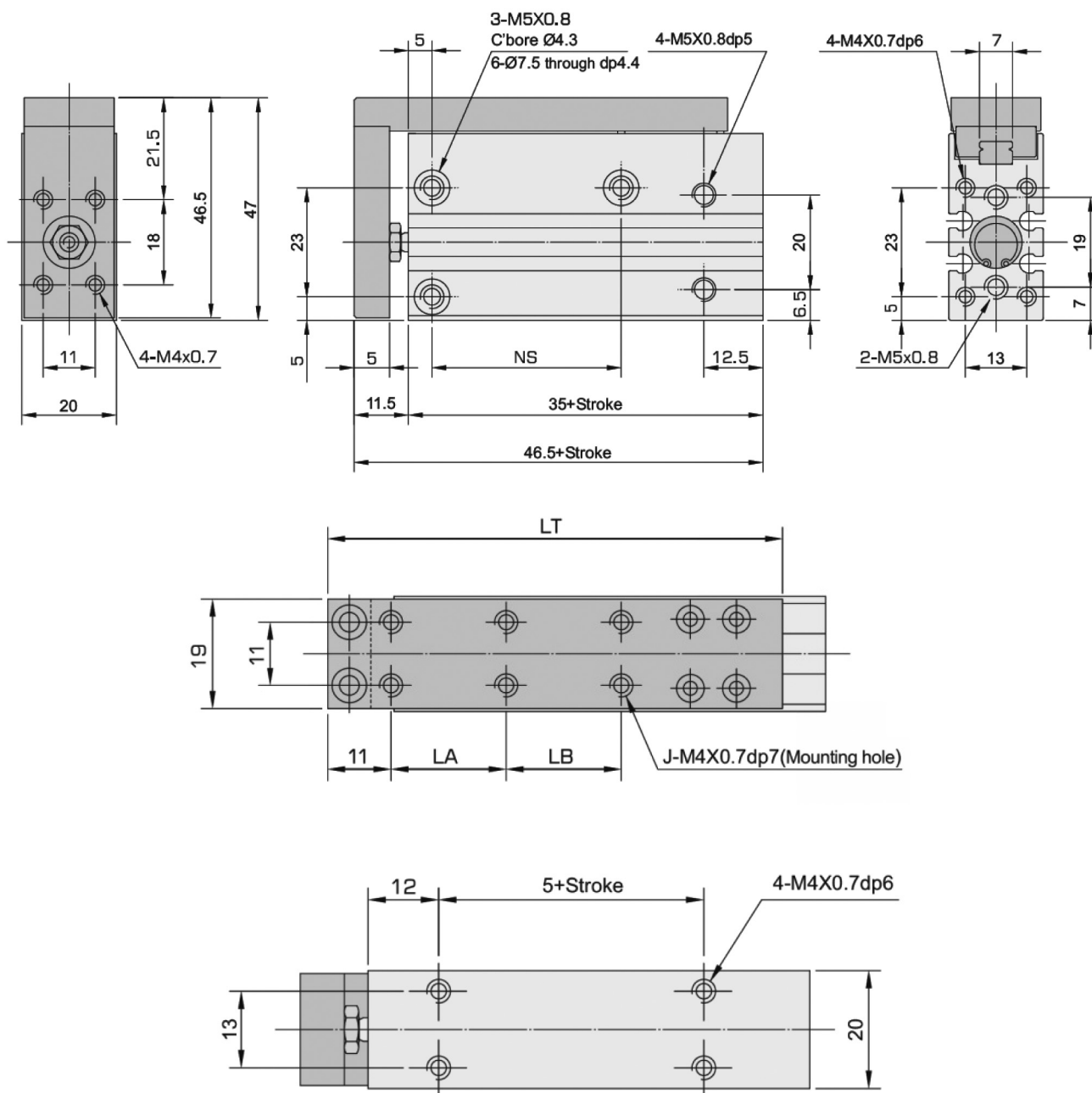


Ordering Cod.
SMSS5V0115ACDC1

Circuit	: Reed 2 wire
Switching	: Normally open N.O.
Voltage	: 5 - 115 v AC / DC
Contact Rating	: 6 W max.
Voltage drop	: 3,5 V max.
Led color	: Red
Cable	: Ø 2,8 mm Grey color

COMPACT SERIE with SIDE GUIDING UNIT

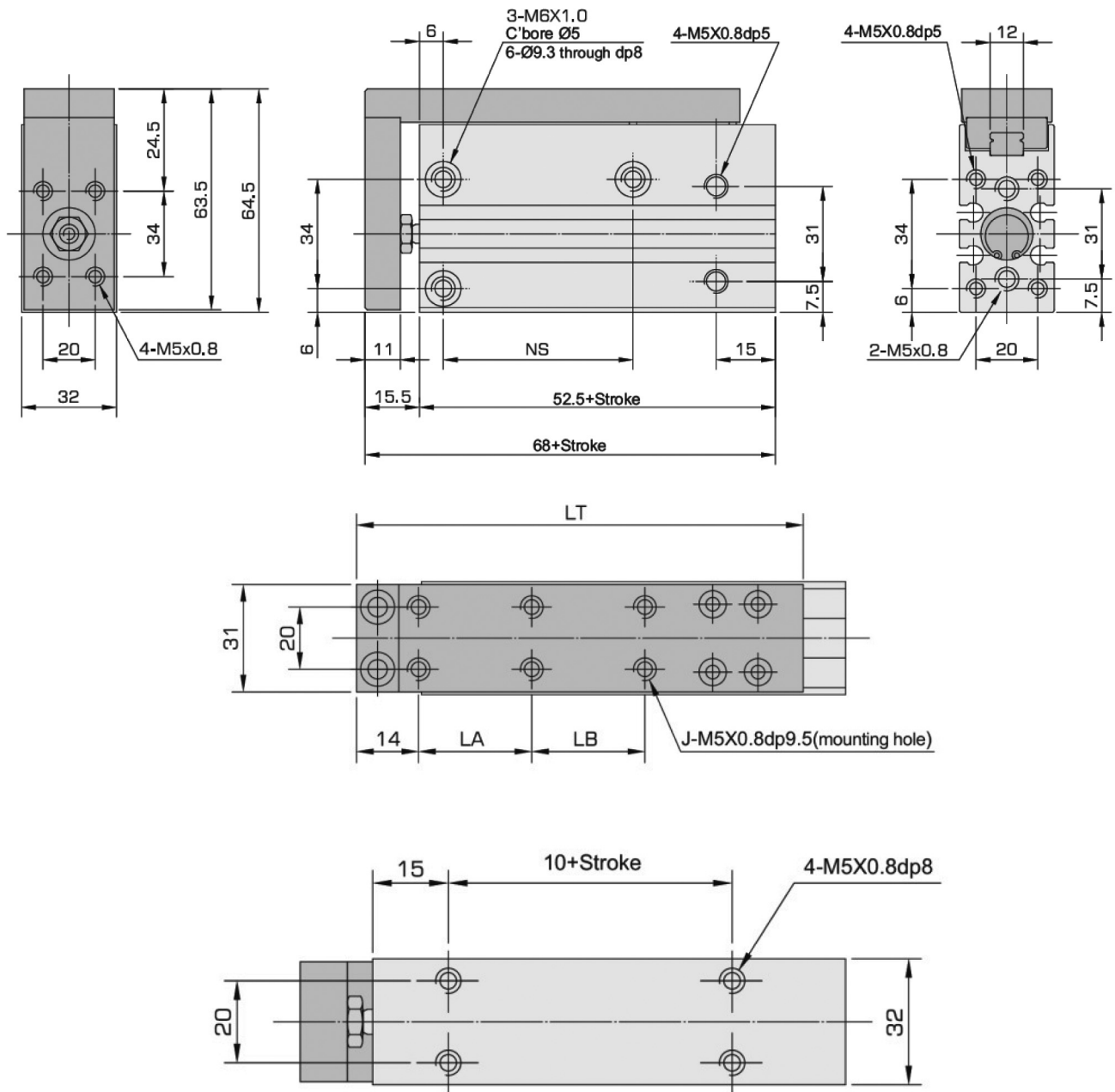
DIMENSIONS for Ø 10 mm



Ø 10 stroke	J	LA	LB	LT	NS
10	4	10	...	49	14
30	4	30	...	69	30
50	6	25	25	89	55

COMPACT SERIE with SIDE GUIDING UNIT

DIMENSIONS for Ø 20 mm

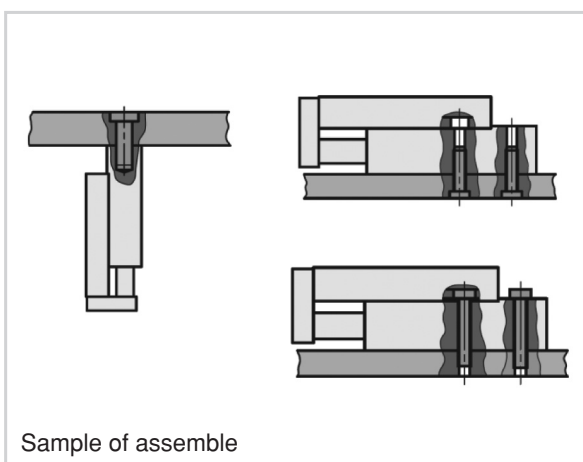


Ø 20 stroke	J	LA	LB	LT	NS
10	4	10	...	64	20
30	4	30	...	84	40
50	6	25	25	104	70

COMPACT SERIE with FRONT GUIDING UNIT



- ☐ Integrated working table with bearing guide unit.
- ☐ Twin piston makes double the force.
- ☐ Threaded for body mounting.
- ☐ Pin holes for easy positioning.
- ☐ Suitable for precise automation.
- ☐ Piston speed range between 50 – 200 mm / sec.
- ☐ Suitable for high speed applications.
- ☐ Rubber bumper on both hands.
- ☐ Sensor groove, only one side



ORDERING CODES

ordering code for Ø 08 mm * 2 : SMS008 / . . . CMOOK
 ordering code for Ø 16 mm * 2 SMS016 : / . . . CMOOK
 ordering code for Ø 25 mm * 2 : SMS025 / . . . CMOOK

ORDERING CODE FOR SENSOR

ordering code for 2 wire sensor : SMSS5V0115ACDC1
 (TYPE 1)

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Non cushioned, Double acting

Materials

Guide plate : Anodized aluminium

Body : Anodized aluminium

Seals : Nbr seals

Guide : Lineer bearing guide

Piston Rod : Hard Chromed steel

Guide profiles : Hardened aluminium

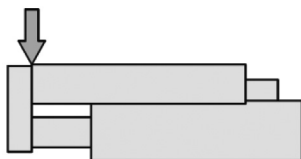
Magnet : Synthetic rubber

Standart diameters : Ø 08 mm - Ø 16 mm - Ø 25 mm

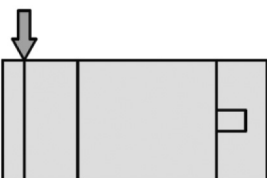
Standart strokes : 10 mm - 30 mm – 50 mm – 75 mm – 100 mm

COMPACT SERIE with FRONT GUIDING UNIT

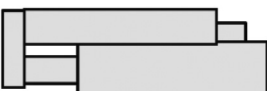
APPLICABLE FORCES F max. (Kg.)



Sample : Ø 8 with max. 75 mm stroke,
the vertical load can be max. 170 gr.
with 200 mm / sec.



Sample : Ø 16 with max. 50 mm stroke,
the vertical load can be max. 250 gr.
with 200 mm / sec.



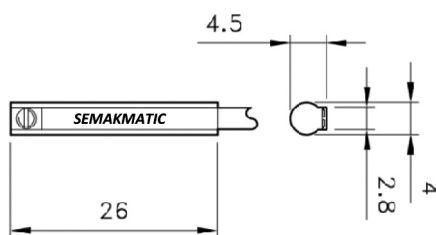
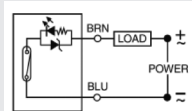
Sample : Ø 25 with max. 100 mm stroke
the vertical load can

Ø mm / stroke	10 mm	30 mm	50 mm	75 mm	100 mm
8 mm * 2	0,2	0,185	0,175	0,17	
16 mm * 2	0,3	0,27	0,25	0,22	0,2
25 mm * 2	0,4	0,375	0,35	0,34	0,3

TYPE 1 SENSOR



TYPE 1



Ordering Cod.
SMSS5V0115ACDC1

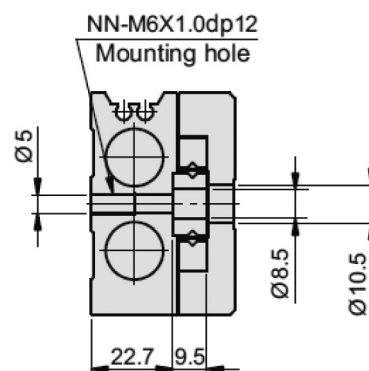
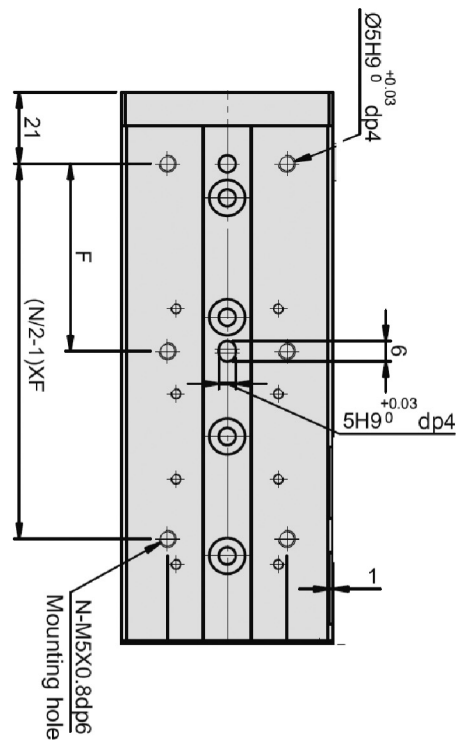
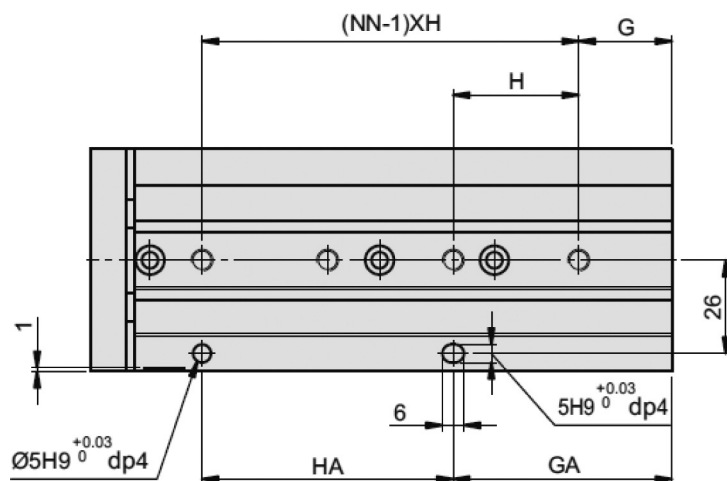
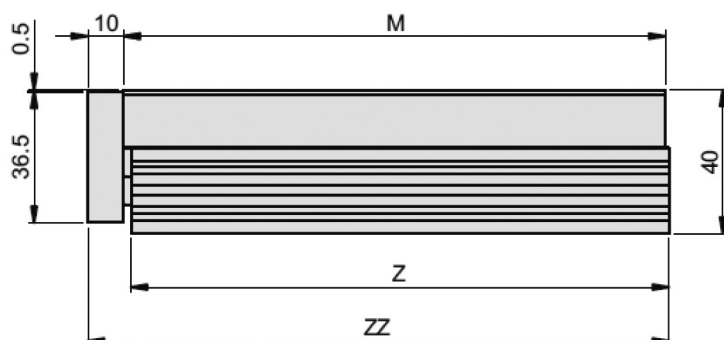
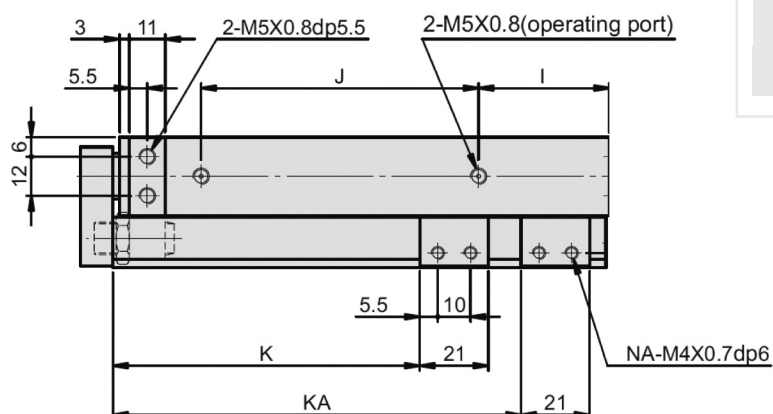
Circuit	: Reed 2 wire
Switching	: Normally open N.O.
Voltage	: 5 - 115 v AC / DC
Contact Rating	: 6 W max.
Voltage drop	: 3,5 V max.
Led color	: Red
Cable	: Ø 2,8 mm Grey color

COMPACT SERIE with FRONT GUIDING UNIT

DIMENSIONS for Ø 16 mm * 2

Theoretical output (kg.) (thrust / traction)

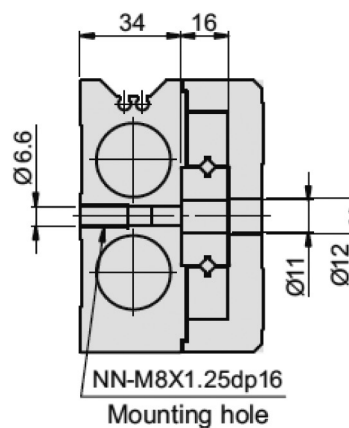
Ø mm / bar	3 bar	5 bar
16 mm * 2	12 / 9	20 / 15



STROKE	F	N	G	H	NN	GA	HA	I	J	K	KA	NA	M	Z	ZZ
10 mm	35	4	16	40	2	16	40	10	40	29	...	2	76	75	87
30 mm	35	4	16	40	2	16	40	10	40	49	...	2	76	75	87
50 mm	30	6	21	30	3	51	30	15	60	69	...	2	101	100	112
75 mm	55	6	26	35	4	61	70	40	85	94	125	4	151	150	162
100 mm	65	6	39	35	5	109	70	55	118	119	173	4	199	198	210

DIMENSIONS for Ø 25 mm * 2

Ø mm / bar	3 bar	5 bar
25 mm * 2	29,5 / 23	49 / 38

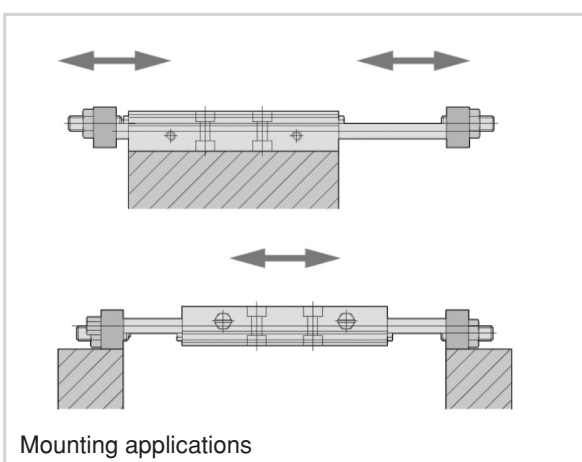


SEMAK**MATIC**
PNEUMATIC EQUIPMENTS

TWIN piston SLIDING UNIT



- ☐ Multi axes application product.
- ☐ Twin piston makes double the force.
- ☐ Adjustable screws at both end provides a wider range of stroke.
- ☐ Unlubricated seals and bushes for durable performance.
- ☐ Suitable for precise automation.
- ☐ Easy proximity switches installation.
- ☐ Parallel piston rods prevents rotation movements.
- ☐ Suitable for dynamic shock absorber applications (optional)
- ☐ Sensor groove, on both sides.



ORDERING CODES

ordering code for Ø 16 mm * 2 : SMS016 / CMOKP
 ordering code for Ø 25 mm * 2 : SMS025 / CMOKP

ORDERING CODE FOR SENSOR

ordering code for 2 wire sensor : SMSS5V0115ACDC3
 (TYPE 3) (V shape)

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continuous.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, cushioned (with shock absorber), Double acting

Materials

Piston Rods : Hardened C 45

Body : Anodized aluminium

Mounting plates : Steel

Guide : Bronze bushing

Seals : NBR

Static cushioning : Pu bumpers

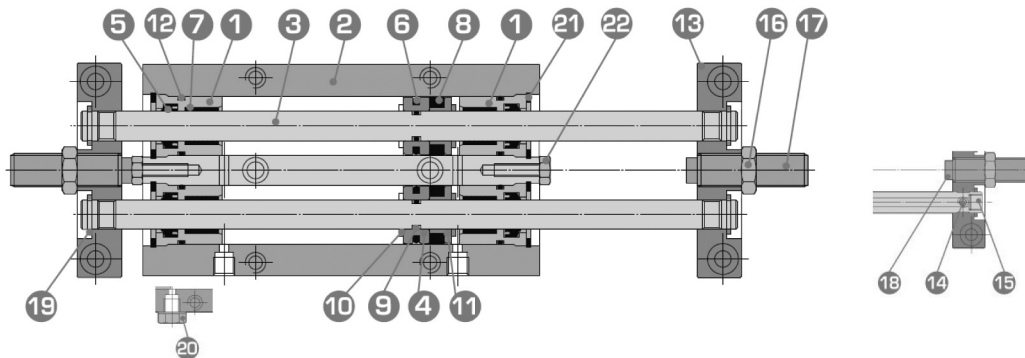
Magnet : Synthetic rubber

Standart diameters : Ø 16 mm - Ø 25 mm

Standart strokes : 50 mm - 100 mm – 150 mm – 200 mm

TWIN piston SLIDING UNIT

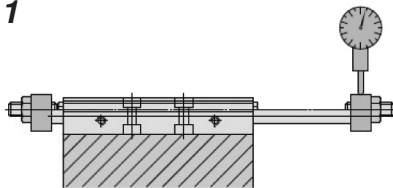
INTERNAL PARTS for Twin piston SLIDING UNIT



- | | | |
|---|----------------------------|----------------------------|
| 1. FRONT END COVER Anodized aluminium | 8. MAGNET Resinous magnet | 15. SCREW carbon steel |
| 2. BARREL hard anodized aluminium alloy | 9. PISTON ROD O – RING Nbr | 16. SCREW NUT carbon steel |
| 3. PISTON ROD Cr 45 steel | 10. SNAP RING SK5M | 17. ADJUSTIBLE SCREW |
| 4. PISTON aluminium alloy | 11. COLLAR aluminium alloy | 18. BUMPER |
| 5. PISTON ROD SEAL Nbr | 12. END COVER SEAL nbr | 19. SNAP RING SK5M |
| 6. PISTON Seal Nbr | 13. END PLATE S45C | 20. SCREW PLUG |
| 7. BUSH Sintered Bronze | 14. STEEL BALL | 21. SNAP RING SK5M |
| | | 22. MOUNTED SCREW |

BENDINGS against load (Kgf.)

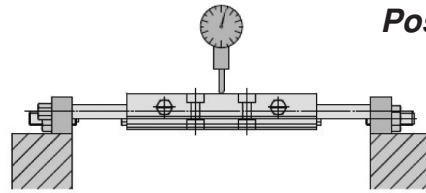
Position 1



Ø	Load (kg. f)	Stroke	
		100	200
16 mm	0,5	0,07	0,44
	1	0,15	0,88
	1,5	0,22	1,32
25 mm	1	0,03	0,18
	1,5	0,05	0,27
	2,5	0,08	0,45

Sample : Ø 16 - 100 mm stroke with 500 gr vertical load
max. bending is 0,07 mm. (for position 1)

Position 2

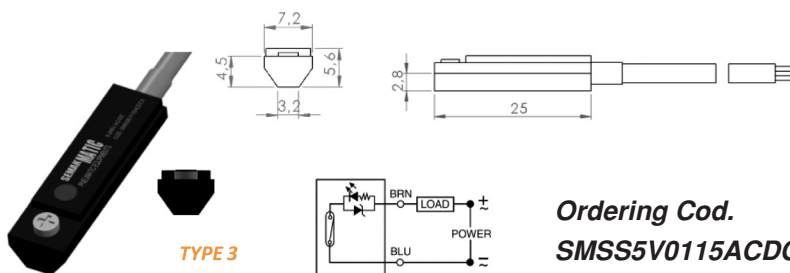


Ø	Load (kg. f)	Stroke	
		100	200
16 mm	1	0,02	0,12
	2	0,05	0,25
	3	0,07	0,37
25 mm	2	0,01	0,05
	3	0,01	0,08
	5	0,02	0,13

Sample : Ø 25 - 200 mm stroke with 2 kg vertical load
max. bending is 0,05mm. (for position 2)

Recommended max. load for safety applications (pos. 1 & pos. 2) : Ø 16 mm max. 0,5 kg and for Ø 25 mm max. 1 kg.

TYPE 3 SENSOR



Ordering Cod.
SMSS5V0115ACDC3

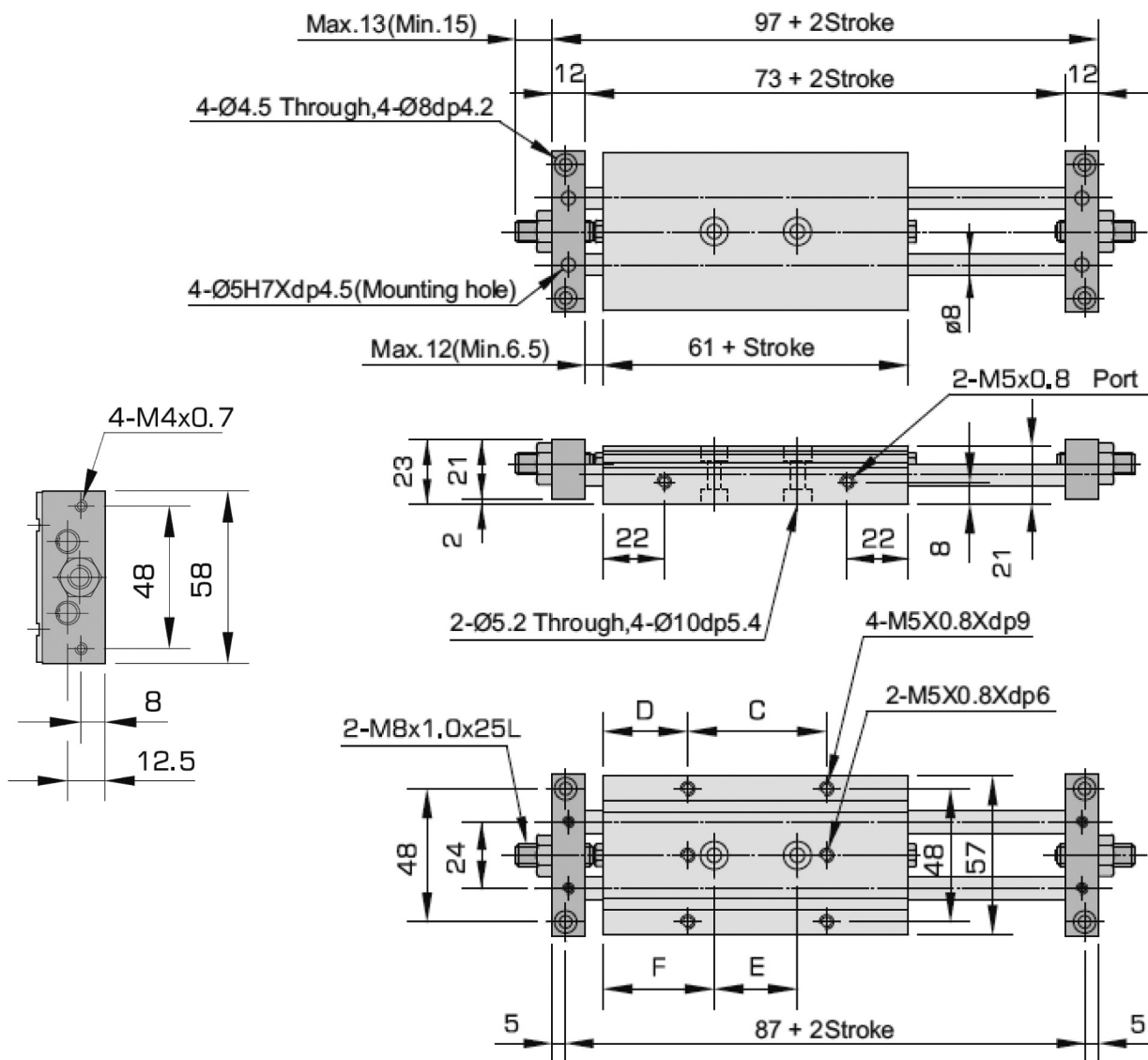
Circuit	: Reed 2 wire
Switching	: Normally open N.O.
Voltage	: 4 – 240 v ac / dc
Switching current	: 5 – 40 mA max. .
Voltage drop	: 2,5 V max.
Led color	: Red
Cable	: Ø 2,8 mm Grey color

TWIN piston SLIDING UNIT

DIMENSIONS for Ø 16 mm * 2

Theoretical output (kg.) (thrust / traction)

Ø mm / bar	3 bar	5 bar
16 mm * 2	9	15



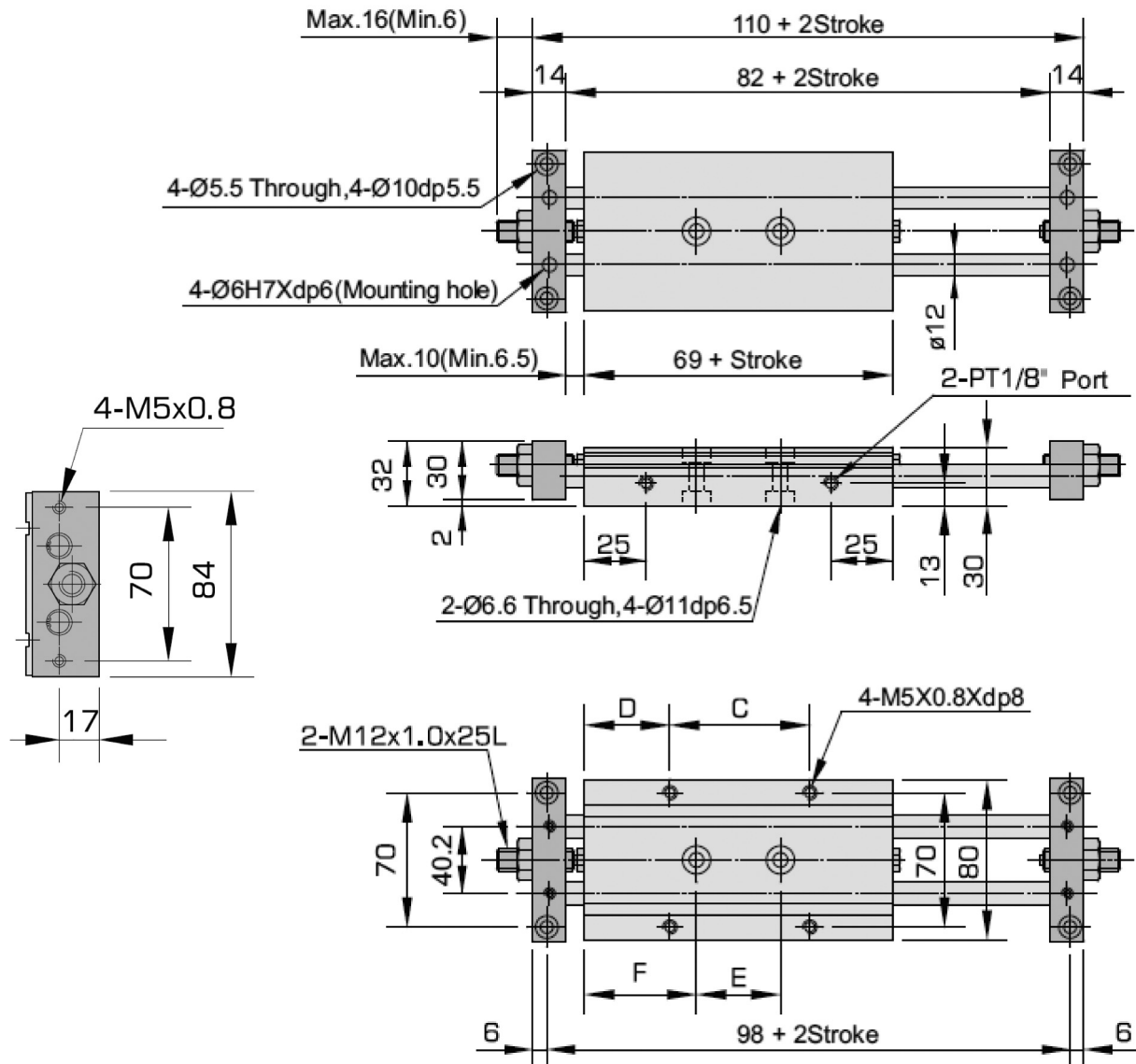
Ø 16 stroke	C	D	E	F
50	50	30,5	30	40
100	100	30,5	70	45,5
150	120	45,5	90	60,5
200	120	70,5	90	85,5

TWIN piston SLIDING UNIT

DIMENSIONS for Ø 25 mm * 2

Theoretical output (kg.) (thrust / traction)

Ø mm / bar	3 bar	5 bar
25 mm * 2	23	38



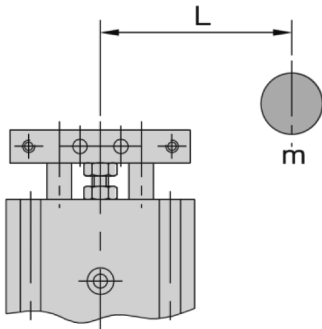
Ø 25 stroke	C	D	E	F
50	50	34,5	45	37
100	100	34,5	70	49,5
150	100	59,5	100	59,5
200	100	84,5	100	84,5

A schematic diagram of a three-phase motor. It shows a rectangular frame representing the motor body. Inside, there are three horizontal lines representing the stator windings. On the right side, there is a terminal box with three terminals. Wires connect these terminals to the three horizontal lines inside the motor frame, indicating a star (Y) connection.



- www.semakmatik.com

Max. LOADS for sample mounting M (kg.)

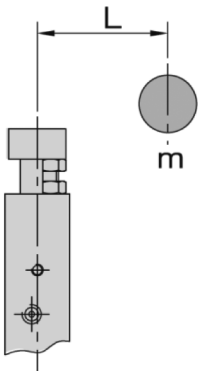


For L = 50 mm, V= 100mm / sec

Ø mm / stroke	20 mm	50 mm	75 mm	100 mm
10 mm * 2	0,5	0,4	0,3	0,2
16 mm * 2	0,7	0,6	0,5	0,4
25 mm * 2	1	0,8	0,7	0,5
32 mm * 2	2	1,8	1,5	1,2

* Please see the value "C" at the related page

Max. LOADS for sample mounting M (kg.)

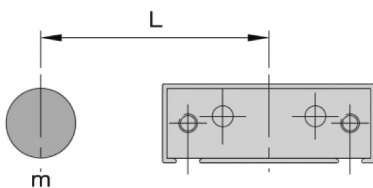


For L = 50 mm, V= 100mm / sec

Ø mm / stroke	20 mm	50 mm	75 mm	100 mm
10 mm * 2	0,25	0,2	0,15	0,1
16 mm * 2	0,35	0,3	0,25	0,2
25 mm * 2	0,5	0,4	0,35	0,25
32 mm * 2	1	0,9	0,75	0,6

* Please see the value "C" at the related page

Max. LOADS for sample mounting M (kg.)



For L = 50 mm, V= 100mm / sec

Ø mm / stroke	20 mm	50 mm	75 mm	100 mm
10 mm * 2	0,2	0,15	0,1	0,1
16 mm * 2	0,3	0,25	0,2	0,15
25 mm * 2	0,4	0,3	0,25	0,2
32 mm * 2	0,7	0,6	0,6	0,4

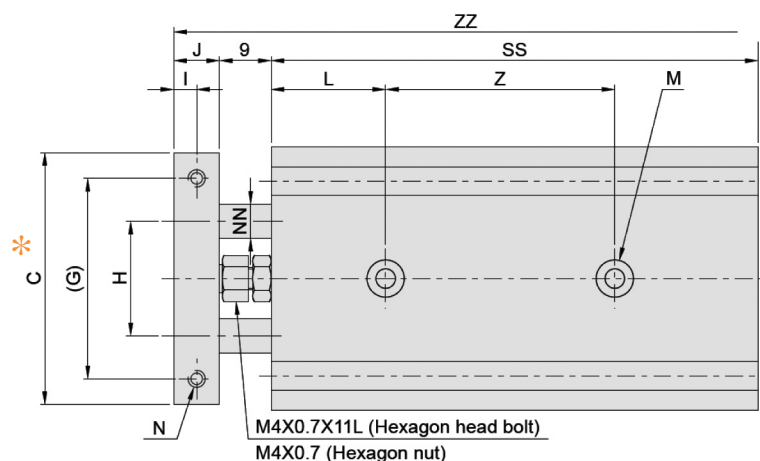
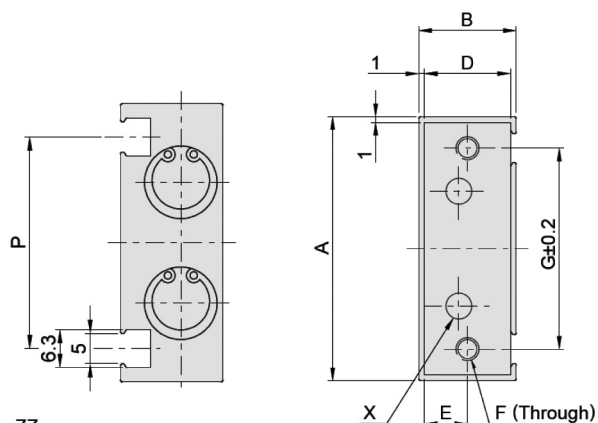
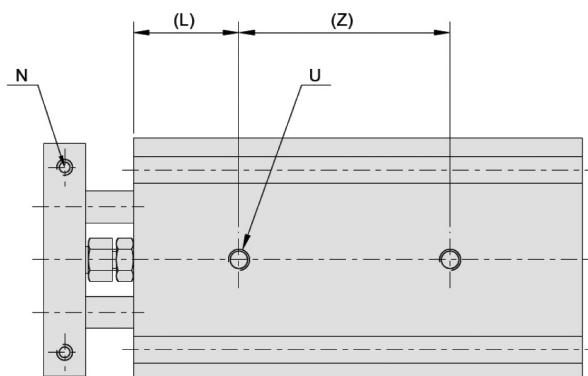
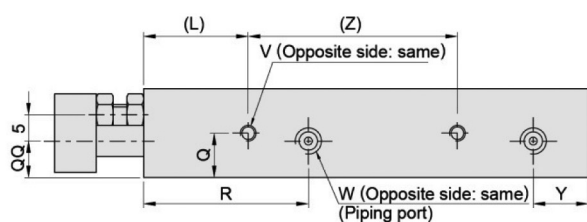
* Please see the value "C" at the related page

TWIN PISTON

DIMENSIONS for Ø 10 mm * 2 / Ø 16 mm * 2

Theoretical output (kg.) (thrust / traction)

Ø mm / bar	3 bar	5 bar
10 mm * 2	4,7 / 3	7,8 / 5
16 mm * 2	10,6 / 7,5	12,6 / 31,5



Ø	A	B	C	D	E	G	H	I	J	L	NN	P	Q	QQ	R	Y
10 mm	46	17	44	15	7,5	35	20	4	8	20	ø 6	35	8,5	7	31,5	9,5
16 mm	58	20	56	18	9	45	25	5	10	30	ø8	48	10	10	39,5	9

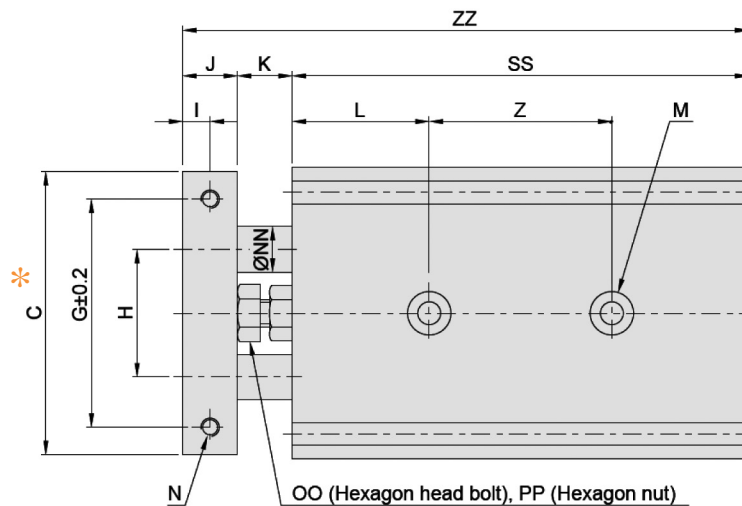
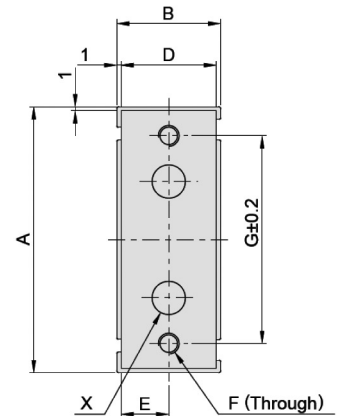
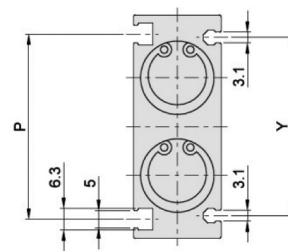
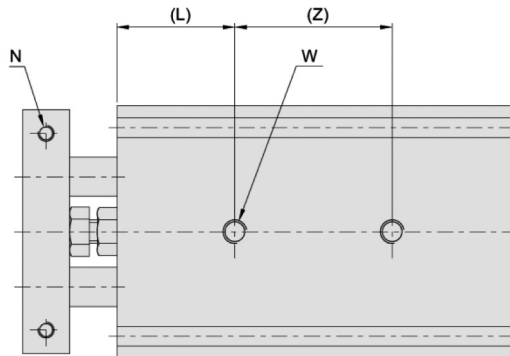
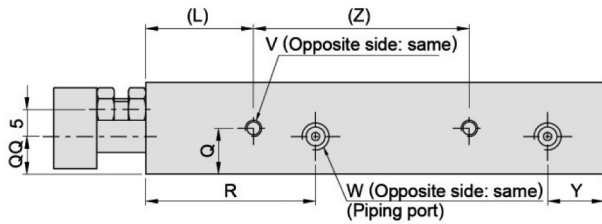
Ø	F	M	N	V	W	U
10 mm	2 - M4x0,7	2 - Ø 3,4 through 2 - Ø 6,5 counterbore	2 - M3x0,5	2 - M3x0,5	4 - M5x0,8	2 - M4x0,7
16 mm	2 - M5x0,8	2 - Ø 4,3 through 2 - Ø 8 counterbore	2 - M4x0,7	4 - M4x0,7	4 - M5x0,8	2 - M5x0,8

Ø	SS				Z				ZZ			
	20	50	75	100	20	50	75	100	20	50	75	100
10 mm	75	105	130	155	30	40	50	60	92	122	147	172
16 mm	80	110	135	160	25	35	45	55	99	129	154	179

DIMENSIONS for Ø 25 mm * 2 / Ø 32 mm * 2

Theoretical output (kg.) (thrust / traction)

Ø mm / bar	3 bar	5 bar
25 mm * 2	29,5 / 22,7	49 / 37,8
32 mm * 2	48,2 / 36,2	80,4 / 60,3



Ø	A	B	C	D	E	G	H	I	J	K	L	NN	P	R	T	TT	U	Y	Q	QQ
25	80	30	78	28	14	60	35	6	12	12	30	ø12	64	48	13	9	10	62	8,5	15
32	98	38	96	36	18	75	44	8	16	14	30	ø16	76	57,5	20	11,5	10,5	74	9	19

Ø	F	M	N	OO	PP	UU	V	W
25	2 - M6x1	2 - Ø 6.9 through	2 - M5x0,8	M6x1,0	M6x1,0	4 - PT 1/8"	8 - M5x0,8	2 - M8x1,25
32	2 - M6x1	2 - Ø 11 counterbore	2 - M5x0,8	M8x1,25	M8x1,25	4 - PT 1/8"	8 - M5x0,8	2 - M8x1,25

Ø	SS				Z			ZZ			
	20	50	75	100	20	50	75/100	20	50	75	100
25	92	122	147	172	30	40	60	116	146	171	196
32	102	132	157	182	40	50	70	132	162	187	212

HYDRAULIC SPEED CONTROLLERS



HYDRAULIC SPEED CONTROLLER

Closed hydraulic circuit without it's own power source.

Tie rod construction with " in – parallel " compensation tank.

It consists in a cylinder filled with oil, rod with it's own piston, setting valve and compansation tank filled with hydraulic oil

Adjustable speed, (depends upon the temperature of the oil)

without valve min. 70 mm / min. and max. 10.000 mm / min.
With valve min. 0 mm / min. and max. 6.000 mm. / min.

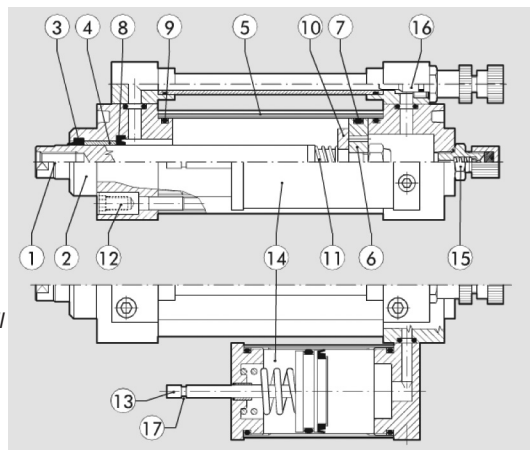
Functioning,

When the rod of the speed controller , coupled with an external moving organ (ex. iso 15552 cylinder), the piston moves closing a one – way valve. The oil is forced through the tansfer pipe towards the regulation valve where encounters an external adjustable restriction, to determine the speed.

When the oil flows in to the other chamber sperated by the piston, douring return the oneway valve opens and oil passes freely to enable a quick return. The in – parallel tank compensates for rod movements and min. blow – by. The dip – stick indicates the oil level.

IMPORTANT FUTURES

- * There are 11 different type of hydraulic speed controller in the SEMAKMATIC product range
- * Standart product dia is 40 mm.
- * Min. stroke is 50 mm
- * Max. stroke is 400 mm
- * Oil level shuld be controlled periodically
- * For perfect result no bending of the rod permitted
- * ISO 15552 serie actuators recomended
- * Depending upon the temperature of the oil speed control can be slightly variable.
- * Suitable diameters of the actuator is 32 / 40 / 50 / 63 / 80 / 100 mm
- * Min. / Max. working pressure of the SKIP & STOP valve is 4 / 8 bar



1. PISTON ROD
2. HEADS
3. PISTON GASKET
4. GUIDE BUSHING
5. BODY
6. PISTON
7. PISTON GASKETS
8. OIL SEALS
9. O – RINGS
10. PLASTIC DISK
11. SPRING
12. TIE ROD SCREW
13. OIL LEVEL INDICATOR
14. OIL EXPANTION TANK
15. OIL FILLING VALVE
16. FLOW REGULATOR NEEDLE
17. MINIMUM OIL LEVEL INDICATOR

Fluid : Hydraulic oil

Recomended oil is brake oil

Actuating product : ISO 15552 serie ACTUATORS

Temperature range : - 10 °C / + 50 °C

Version : Thrust / Traction speed adjusted, skip valve and/or stop valve integrated

Materials

Heads : Painted die cast aluminium

Barrel : Round anodized aluminium

Seals : NBR

Bush : Sintered Bronze

Piston Rod : C45 Chromed steel

Screws and tie rods : Steel

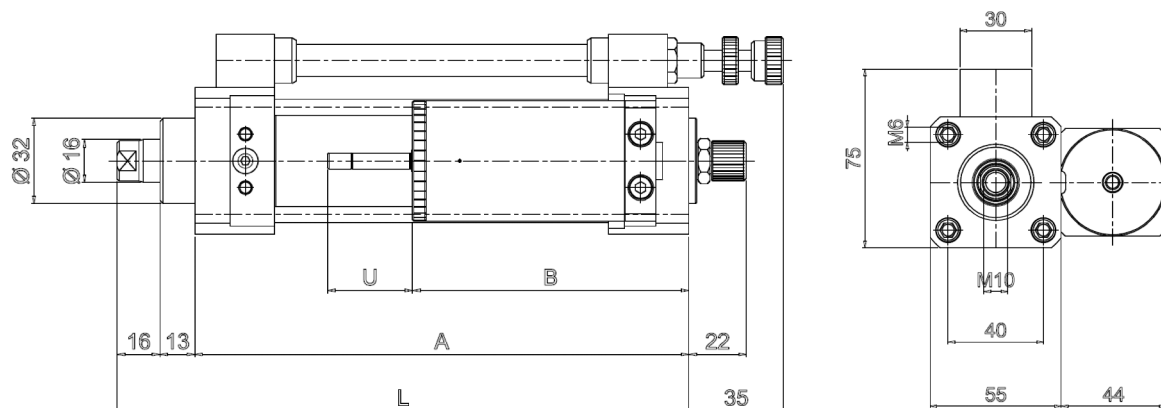
Max adjustable force (N.) : With valves 5 kN.

Without valves 6 kN.

Standart strokes : 50 – 100 – 150 – 200 – 250 – 300 – 350 – 400 mm

Thrust adjusted SPEED CONTROLLER

THRUST ADJUSTED SERIE (with parallel tank)

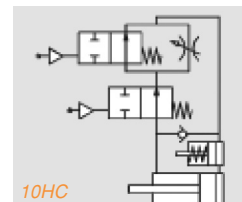
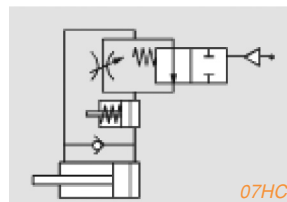
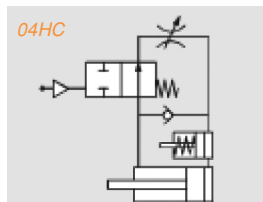
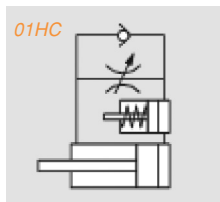


STROKES	50 mm	100 mm	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm
A	136	186	236	286	336	386	436	486
B	105	105	125	125	150	150	170	170
L	165	215	265	315	365	415	465	515
U	32	32	47	47	67	67	86	86

ORDERING CODES

Thrust adjusted : SMS040 . . . 0001HC
 Thrust adjusted + stop valve : SMS040 . . . 0004HC
 Thrust adjusted + skip valve : SMS040 . . . 0007HC
 Thrust adjusted + stop valve + skip valve : SMS040 . . . 0010HC

* Dia 40 mm is standard
 * Standart strokes are
 050 mm, 100 mm, 150 mm, 200 mm
 250 mm, 300 mm, 350 mm, 400 mm



Sample : SMS040 / 150 / 0007HC

Dia. 40 mm / Stroke 150 mm / Thrust speed controlled
With skip valve

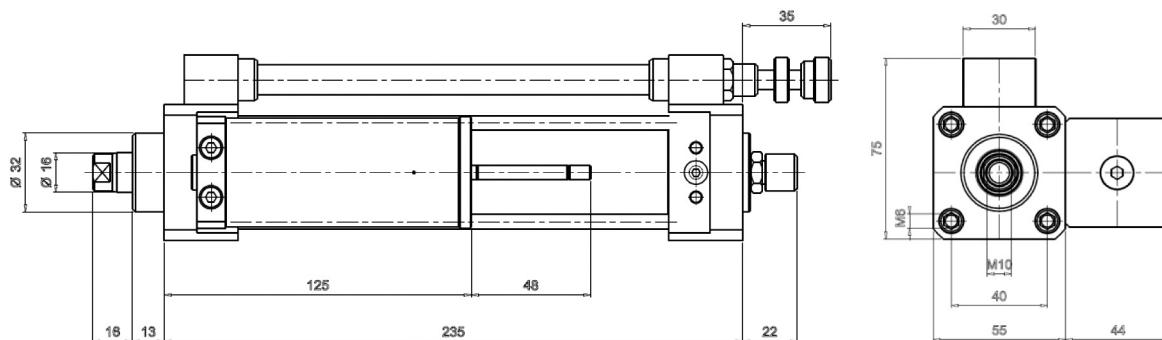


Sample : SMS040 / 400 / 0004HC

Dia. 40 mm / Stroke 400 mm / Thrust speed controlled
With stop valve

SPEED CONTROLLER Traction adjusted

TRACTION ADJUSTED SERIE (with parallel tank)

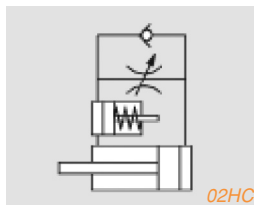


STROKES	50 mm	100 mm	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm
A	136	186	236	286	336	386	436	486
B	105	105	125	125	150	150	170	170
L	165	215	265	315	365	415	465	515
U	32	32	47	47	67	67	86	86

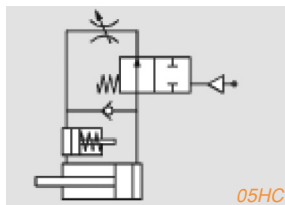
ORDERING CODES

Traction adjusted : SMS040 . . . 0002HC
 Traction adjusted + stop valve : SMS040 . . . 0005HC
 Traction adjusted + skip valve : SMS040 . . . 0008HC
 Traction adjusted + stop valve + skip valve : SMS040 . . . 0011HC

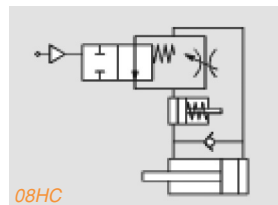
* Dia 40 mm is standard
 * Standart strokes are
 050 mm, 100 mm, 150 mm, 200 mm
 250 mm, 300 mm, 350 mm, 400 mm



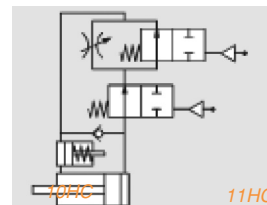
02HC



05HC



08HC

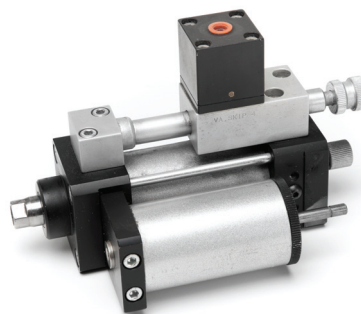


11HC



Sample : SMS040 / 150 / 0002HC

Dia. 40 mm / Stroke 150 mm / Traction speed controlled

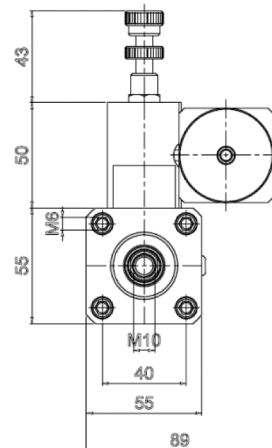
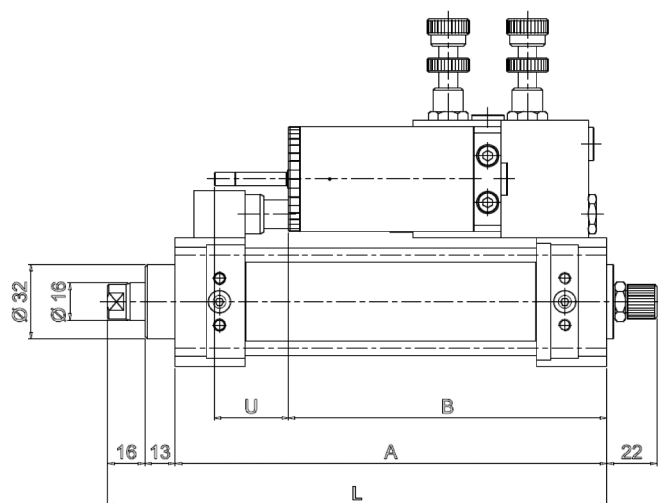


Sample : SMS040 / 050 / 0008HC

Dia. 40 mm / Stroke 50 mm / Traction speed controlled
 With skip valve

Thrust & Traction adjusted SPEED CONTROLLER

Thrust & Traction adjusted serie (with parallel tank)



STROKES	50 mm	100 mm	150 mm	200 mm	250 mm	300 mm	350 mm	400 mm
A	136	186	236	286	336	386	436	486
B	138	138	158	158	183	183	203	203
L	165	215	265	315	365	415	465	515
U	32	32	47	47	67	67	86	86

ORDERING CODES

Thrust & Traction adjusted : SMS040 . . . 0003HC

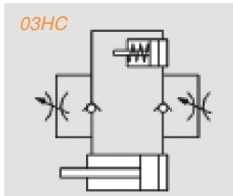
Thrust & Traction adjusted + stop valve : SMS040 . . . 0006HC

Thrust & Traction adjusted + skip valve : SMS040 . . . 0009HC

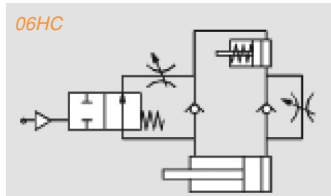
* Dia 40 mm is standard

* Standard strokes are
050 mm, 100 mm, 150 mm, 200 mm
250 mm, 300 mm, 350 mm, 400 mm

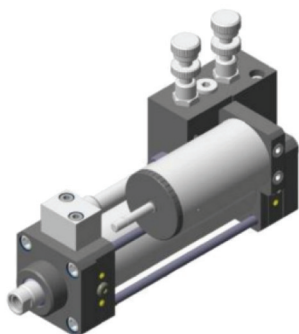
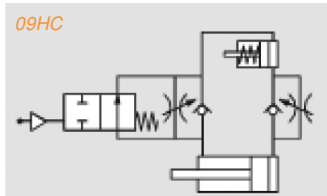
03HC



06HC



09HC

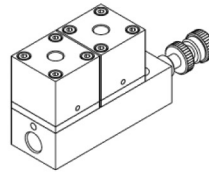
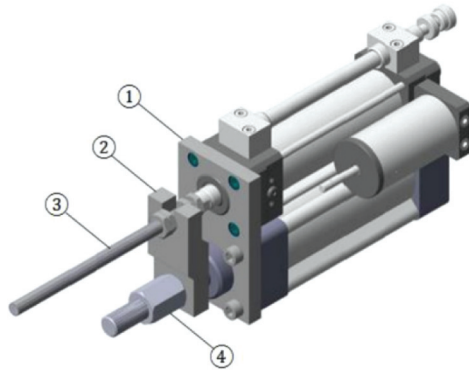


Sample : SMS040 / 100 / 0003HC

Dia. 40 mm / Stroke 100 mm / Thrust speed controlled
Traction speed controlled

HYDRAULIC SPEED CONTROLLER

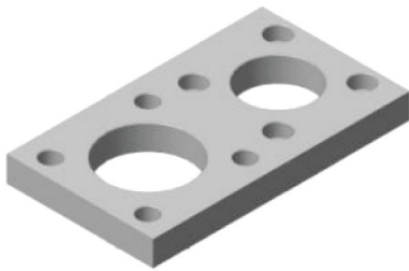
SAMPLE ASSEMBLY with ISO 15552 CYLINDER



stop & skip valve

1. MAIN FLANGE
2. MID FLANGE
3. ROD with screw
4. NIPPLE

ACCESSORIES



Main flange



Mid flange



Nipple

Ordering code for MAIN FLANGE

SMS040 . . . 1000HC

Ordering code for MID FLANGE

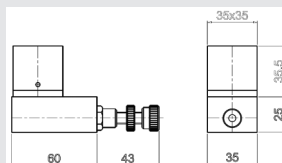
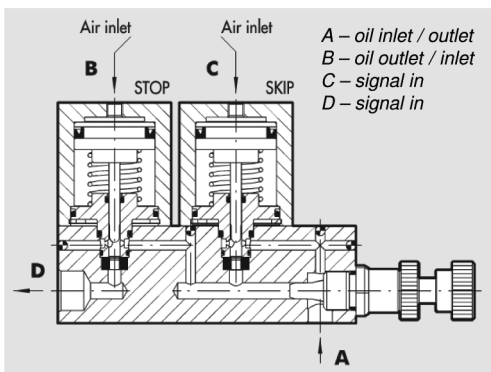
SMS040 . . . 2000HC

Ordering code for NIPPLE

SMS040 . . . 3000HC

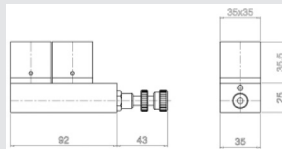
For piston dia. (Ø) 32 mm – 40 mm – 50 mm – 63 mm – 80 mm – 100 mm

SKIP & STOP VALVE (n.c.)



Skip valve (2/2 way N.O.)

Without control, the fluid passes freely.
With pneumatic control, the valve closes forcing the fluid to pass through the regulation. They are used when quick alternating movements are required in a controlled manner.



Stop valve (2/2 way N.O.)

With a pneumatic control, the valve stops the oil flow up to the control is removed. They are used when immediate and accurate stops are required.

GUIDING UNITS H type & U type



GUIDING UNIT

Guiding units has two different version.

H type and U type has a bronze slide bushing.

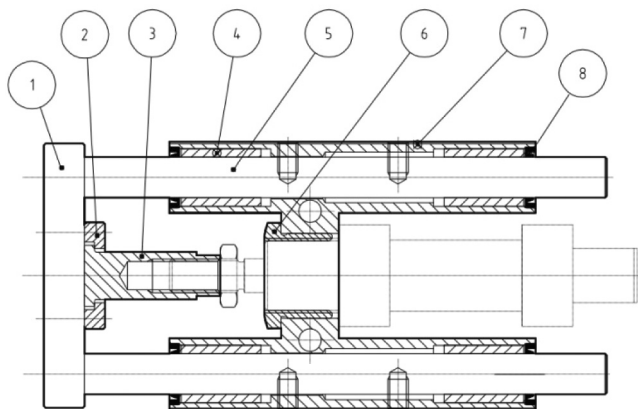
H type is suitable for ISO 15552 (old 6431), ISO 6432 and ISO 21287 short stroke serie. (from Ø 32 to Ø 100 mm). This type of guiding units are suitable for heavy duty loads.

U type is also suitable for ISO 15552 (old 6431)

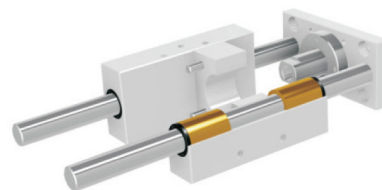
We recommed this guiding units for light weight applications

U type is highly usefull for ISO 6432 and ISO 21287 (from Ø 32 to Ø 100 mm)

** Before ordering the guiding unit please see the max. applicable loads graph.



1. PLATE (ALUMINIUM)
2. METAL RING (STEEL NICKEL PLATED)
3. SUPPORT BUSHING FOR CYLINDER ROD
4. BRONZE BUSHING
5. ROD (steel C 40 chromed)
6. ADAPTOR RING
7. BODY ALUMINIUM
8. NBR SEALS



Strokes : 100 – 200 – 300 – 400 – 500 mm are the standart strokes for H type

50 – 100 – 150 – 200 mm are standart strokes for U type

Bushing : Twin bushing system for U and H type

Seals : NBR (at the top of front and rear bushing)

Versions : H type and U type

Materials

Body : Aluminium

Rods : Steel C 40 CHROMED

Seals : NBR

Bushings : Sintered Bronze

Plate : Aluminium

Suitable diameters (Ø) : Ø 12 – 16 / 20 – 25 / 32 / 40 / 50 / 63 / 80 / 100 mm

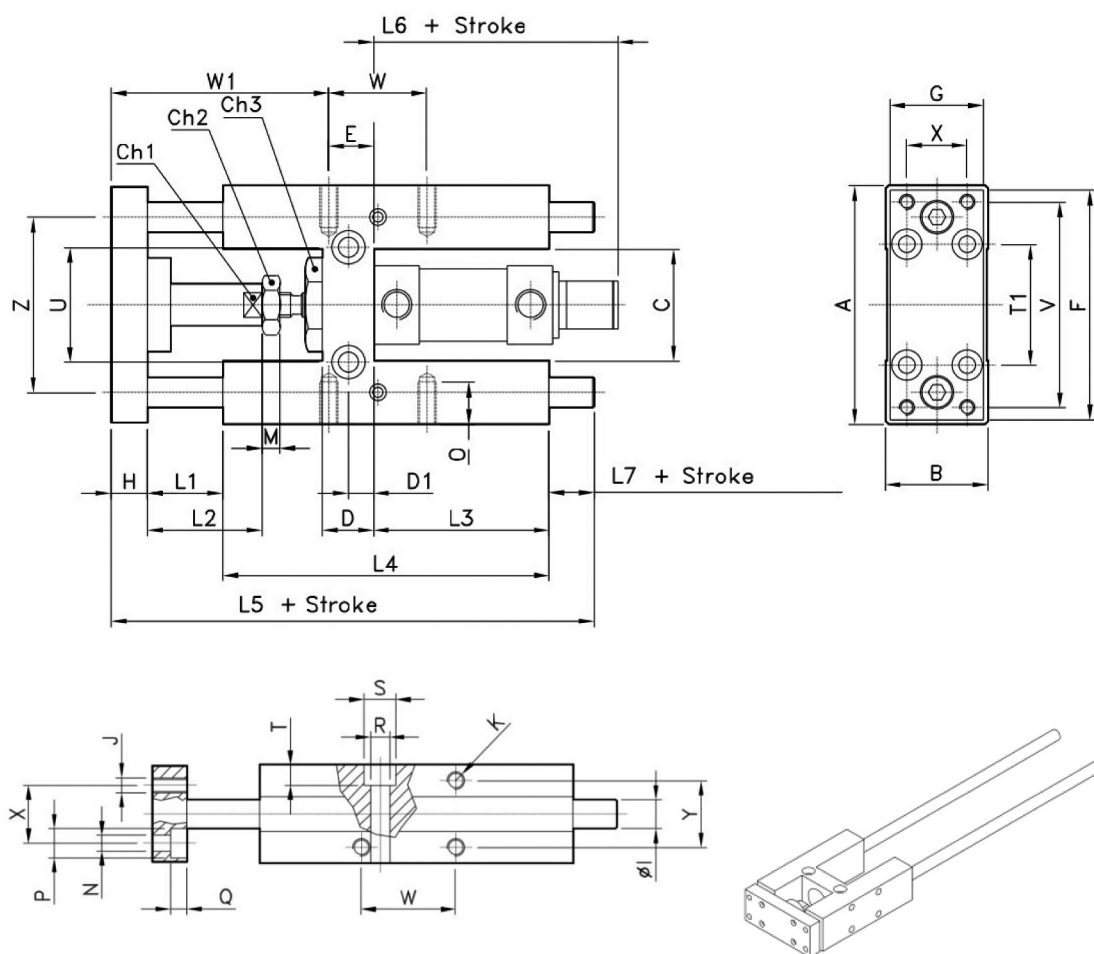
Max applicable force (N.) : Please see the graphs.

Applicable forces are depended upon the stroke.

Suitable standart cylinders : ISO 15552 / ISO 6432 / ISO 21287 (from Ø 32 to 100 mm)

GUIDING UNIT H type

GUIDING UNIT H type Drawing for ISO 6432 cylinders



Ø	A	B	C	Ch1	Ch2	Ch3	D	D1	E	F	G	H	ØI	J	K	L1	L2	L3	L4
12 - 16	69	30	30	8	10	24	12	6	8	66	29	10	10	M4	M4	25	18	46	68
20	79	34	37	12	13	27	17	9	15	78	32	12	12	M5	M6	25	40	58	108
25	79	34	37	12	17	27	17	9	15	78	32	12	12	M5	M6	25	40	58	108

Ø	L5	L6	L7	M	N	O	P	Q	R	S	T	T1	U	V	W	W1	X	Y	Z
12 - 16	124	73	21	4	4,5	6	8	4,5	5,5	9	5,5	32	24	58	18	40	18	22	49,5
20	166	87	21	5	5,5	9	10	7,5	6,5	11	6,5	38	38	68	32,5	20	72	23	58
25	166	91	21	6	5,5	9	10	7,5	6,5	11	6,5	38	38	68	32,5	20	72	23	58

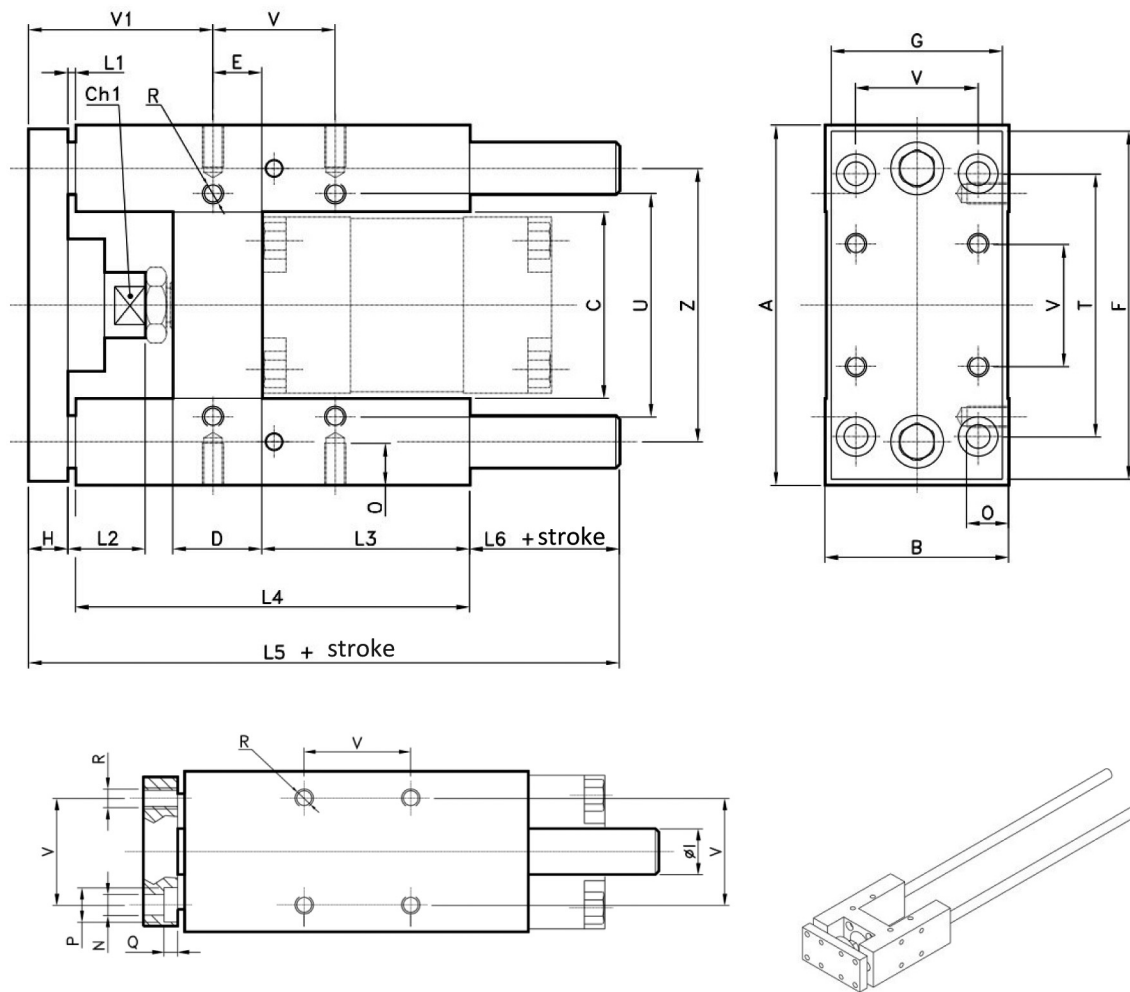
ORDERING CODE

H TYPE GUIDING UNIT for ISO 6432 : SMS * * * * * 00HKI

DIAMETERS Ø 12 - 16 / Ø 20 - 25

STROKES 50 - 100 - 150 - 200 - 250

GUIDING UNIT H type Drawing for ISO 15552 & ISO 21287



Ø	A	B	C	Ch	D	E	F	G	H	ØI	L1	L2	L3	L4	L5	L6	N	O	P	Q	R	T	U	V	V1	Z
32	97	49	51	15	24	4,3	93	45	12	12	25	42	75	125	187	25	6,6	12	11	6,5	M6	78	6	32,5	83	74
40	115	58	58	15	28	11	112	55	12	16	25	42	80	140	207	30	6,6	12	11	6,5	M6	84	69	38	86	87
50	137	70	70	20	34	19	134	65	15	20	25	50	78	148	223	35	9	16	15	8,5	M8	100	85	47	91	104
63	152	85	85	20	34	15	147	80	15	20	25	50	106	178	243	25	9	16	15	9	M8	105	100	57	97	119
80	189	105	105	26	50	25	180	100	20	25	25	50	111	195	267	27	11	20	18	11	M10	130	130	72	104	148
100	213	130	130	26	55	30	206	120	20	25	25	50	128	218	290	27	11	20	18	11	M10	150	150	89	105	173

ORDERING CODE

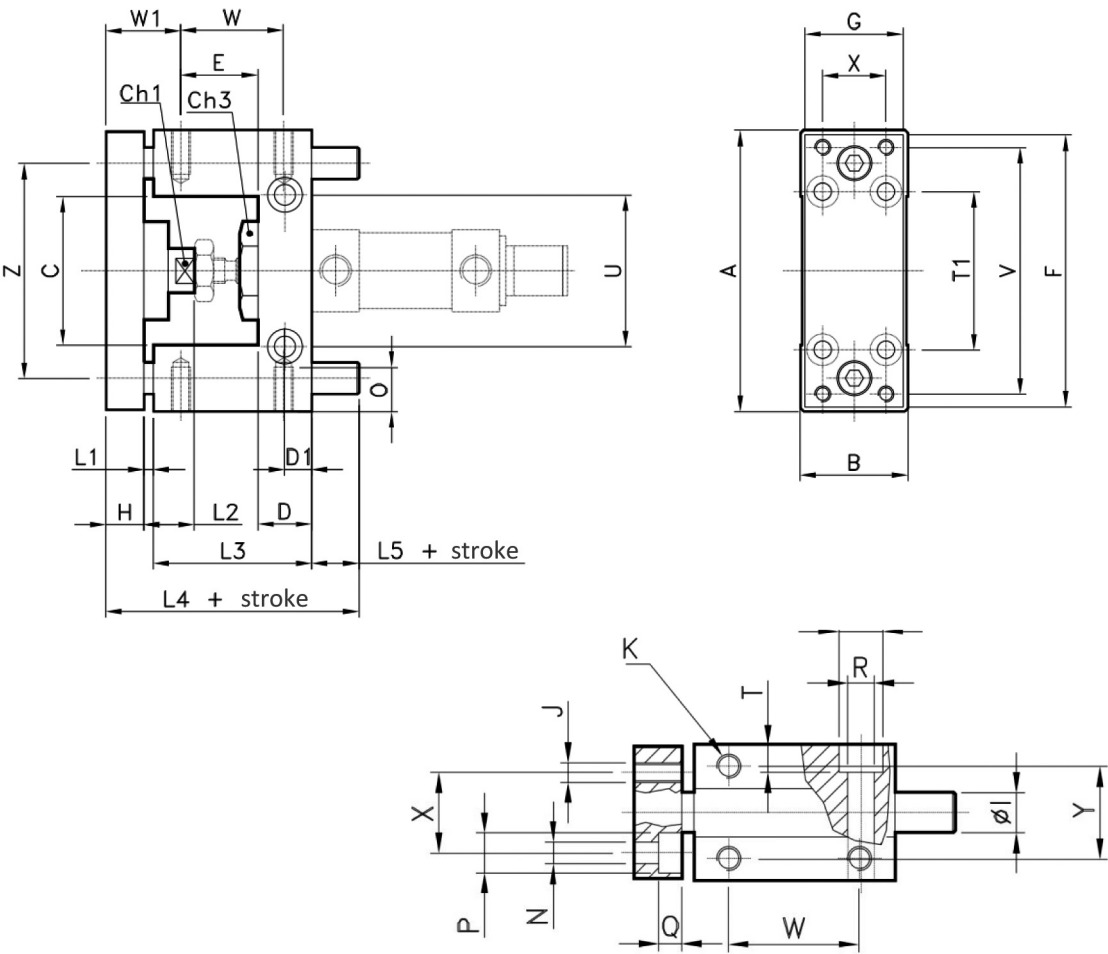
H TYPE GUIDING UNIT for ISO 15552 & 21287 : SMS * * * * * 00HKI

DIAMETERS Ø 32 - 40 - 50 - 63 - 80 - 100 mm

STROKES 100 - 200 - 300 - 400 - 500 mm

GUIDING UNIT U type

GUIDING UNIT U type Drawing for ISO 6432



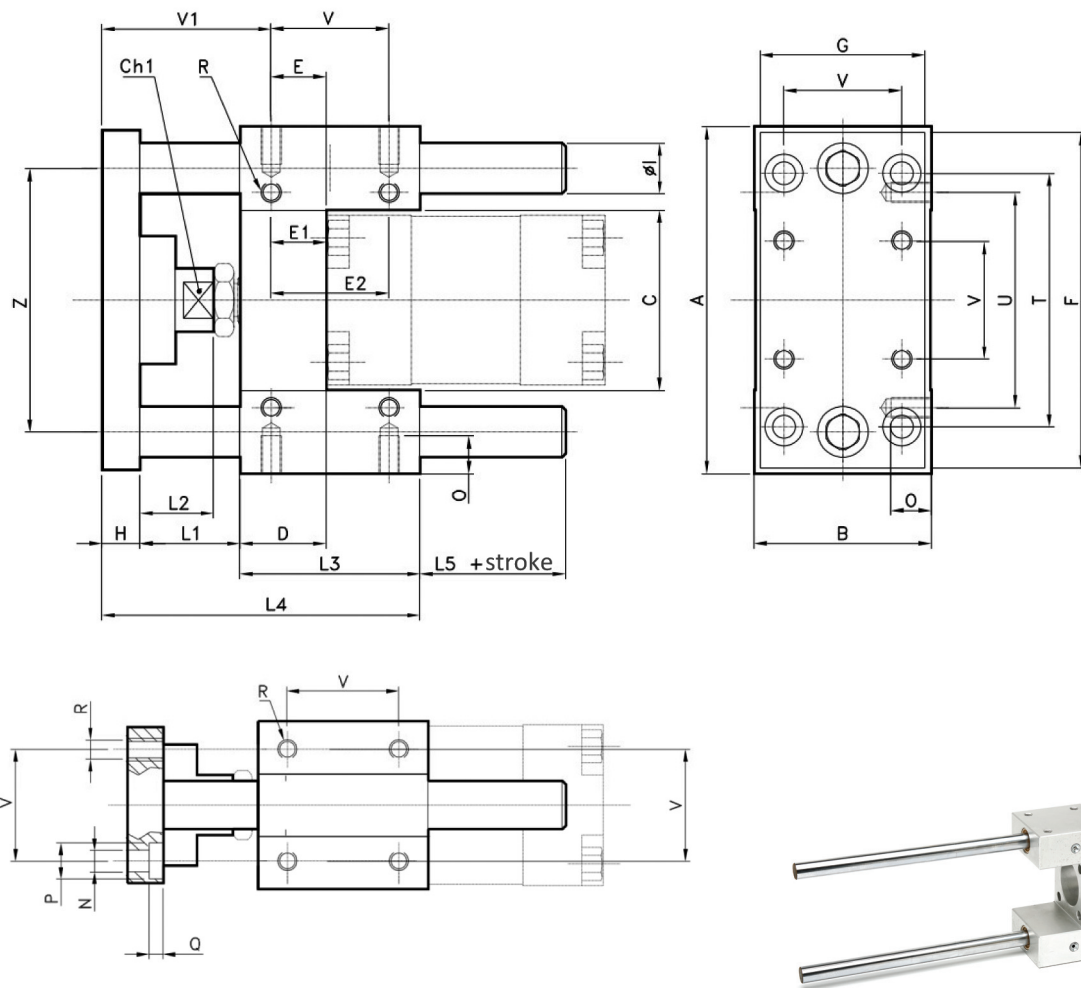
Ø	A	B	C	Ch1	Ch2	D	D1	E	F	G	H	ØI	J	K	L1	L2	L3
12 - 16	69	30	30	8	24	12	6	19,5	66	29	10	10	M4	M4	3	15	38
20 - 25	79	34	37	12	27	17	8,5	24	78	32	12	12	M5	M6	3	18	48

Ø	L4	L5	N	O	P	Q	R	S	T	T1	U	V	W	W1	X	Y	Z
12 - 16	66	15	4,5	6	7,5	4,5	5,5	9	5,5	32	24	58	25	19	18	22	50
20 - 25	83	20	5,5	9	10	7,5	6,5	11	6,5	38	38	68	32	22	20	23	58

ORDERING CODE

U TYPE GUIDING UNIT for ISO 6432 : SMS * * * * * 00UKI
 DIAMETERS Ø 12 - 16 / Ø 20 - 25
 STROKES 50 - 100 - 150 - 200 - 250

GUIDING UNIT U type Drawing for ISO 15552 & ISO 21287



Ø	A	B	C	Ch	D	E1	E2	F	G	H	ØI	L1	L2	L3	L4	L5	N	O	P	Q	R	T	U	V	V1	Z
32	97	49	51	15	17	9	32	93	45	12	12	42	25	48	102	18	6,6	12	11	6,5	M6	78	61	33	62	74
40	115	58	58	15	21	11	38	112	55	12	16	43	25	58	113	17	6,6	12	11	6,5	M6	84	69	38	65	87
50	137	70	70	20	25	19	46	134	65	15	20	49	29	59	123	20	9	16	15	8,5	M8	100	85	46	70	104
63	152	85	85	20	25	15	56	147	80	15	20	49	29	76	140	21	9	16	15	9	M8	105	100	56	74	119
80	189	105	105	26	34	25	50	180	100	20	25	53	27	90	163	30	11	20	18	11	M10	130	130	72	82	148
100	213	130	130	26	39	28	70	206	120	20	25	54	27	110	184	30	11	20	18	11	M10	150	150	89	85	173

ORDERING CODE

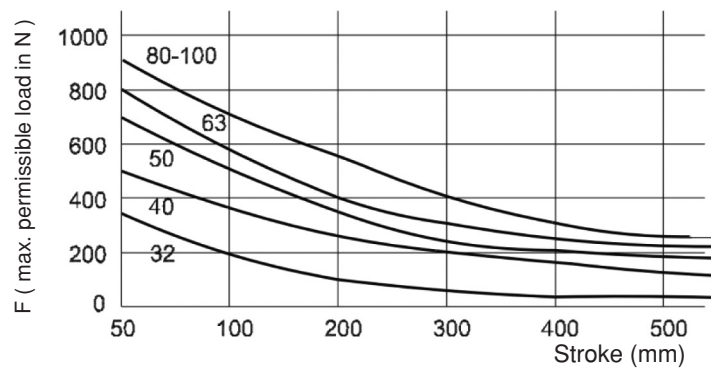
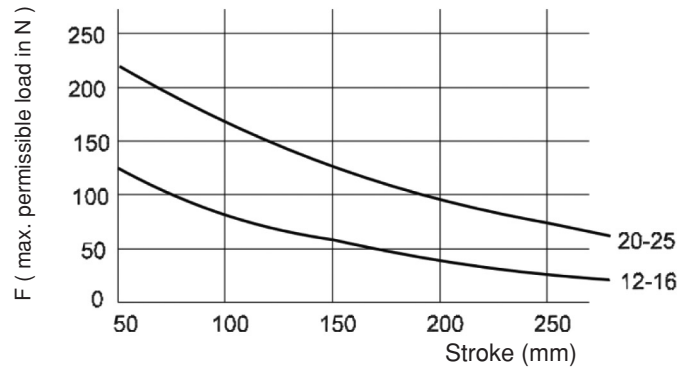
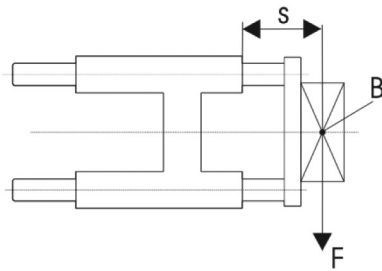
U TYPE GUIDING UNIT for ISO 15552 & 21287 : SMS * * * * * 00UKI

DIAMETERS Ø 32 - 40 - 50 - 63 - 80 - 100

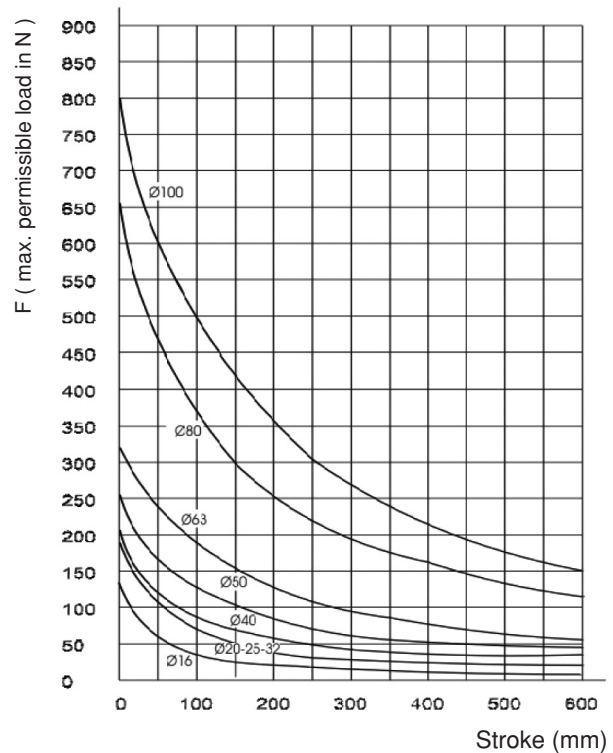
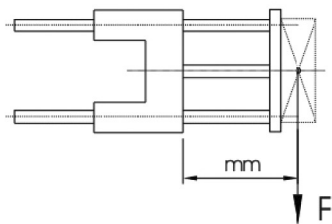
STROKES 50 - 100 - 150 - 200 - 300 - 400 - 500

GUIDING UNITS H type & U type

GUIDING UNIT Load – stroke graph . for H type



GUIDING UNIT Load – stroke graph . for U type



ROD LOCKS for ISO 15552 CYLINDERS



ROD LOCK for ISO 6432 CYLINDERS

SEMAKMATIC serie rod lock units are suitable for ISO 15552 and ISO 6432 series of cylinders. There are 8 different models which are Ø 20, 25 mm for ISO 6432 and Ø 32, 40, 50, 63, 80 and 100 mm for ISO 15552 cylinders.

The locking unit released by pressured air and activated by spring force. Min working pressure is 4 bar.

For the perfect result, the cylinder should be ordered with extended rod. (please see the related page)

The locking force refers to static load, sliding can happen exceeding the max. indicated values.

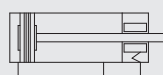
The locking rod unit must be unclamped only when both chambers of the cylinder are in pressure, otherwise the cylinder rod could move not uniformly and this could cause a damage to the application.



ROD LOCK for ISO 15552 CYLINDERS

CYLINDER BORE (Ø)	LOCKING FORCE (N)
Ø 20	300 N
Ø 25	400 N

CYLINDER BORE (Ø)	LOCKING FORCE (N)
Ø 32	650 N
Ø 40	1100 N
Ø 50	1600 N
Ø 63	2500 N
Ø 80	4000 N
Ø 100	6300 N



ORDERING CODE

SMS . . . / 0000000 RL

ROD LOCK

FLUID : Compressed filtered air with or without lubricating

VERSION : RELEASE with PRESSURED AIR

DIAMETERS : 20 - 25 - 32 - 40 - 50 - 63 - 80 - 100 mm

TEMPERATURES : - 10 °C / + 50 °C

ACTIVATING : With 3/2 way valve

Materials

Body : Anodized aluminium

Jaws : Brass

Seals : NBR

Locking cylinder : Sintered Bronze

Pilot port : 1/8" bspp (M5 for Ø 20, 25 mm)

SUITABLE CYLINDERS : ISO 6432, ISO 15552

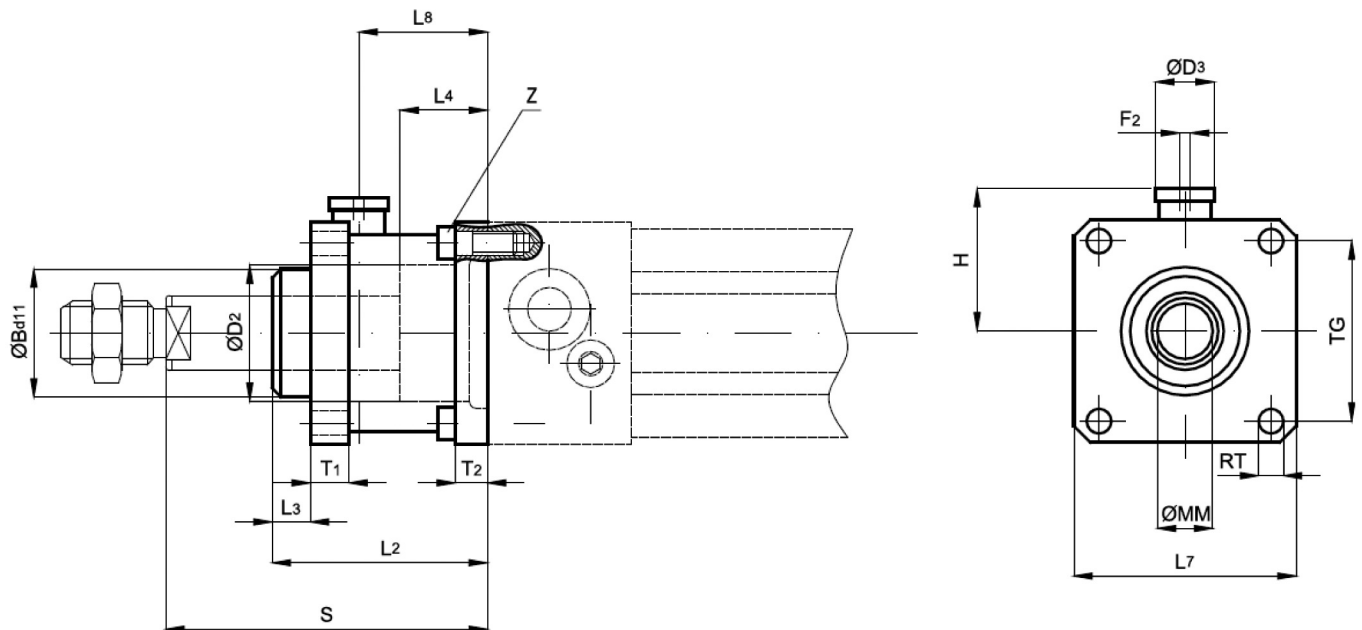
WORKING PRESSURE : Min. 4 bar / Max. 8 bar

Screws : Zinc plated steel

Speciality : Supplied with security screw (brass)

ROD LOCKS for ISO 15552

Dimensions of the rod lock unit for iso 15552 cylinder



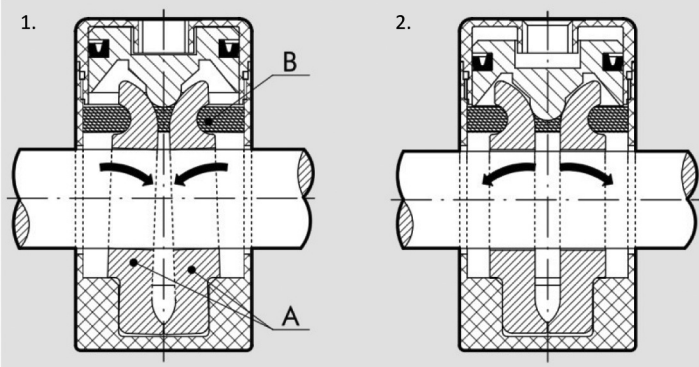
Ø	Ø B	ØD2	ØD3	F2	H	L2	L3	L4	L7	L8	ØMM	RT	S	T1	T2	TG	Z
	30	30,5	20	M5	25,5	58	10	20,5	45	31,5	12	M6	74	13	8	32,5	M6x20
40	35	35	24	1/8"	30	65	10	22,5	50	36	16	M6	85	13	8	38	M6x20
50	40	40	30	1/8"	36	82	12	29,5	60	45,5	20	M8	107	16	15	46,5	M8x30
63	45	45	38	1/8"	40	82	12	29,5	70	49,5	20	M8	107	16	15	56,5	M8x30
80	45	45	48	1/8"	50	110	20	35	90	61	25	M10	136	20	18	72	M10x35
100	55	55	48	1/8"	58	115	23	39	105	65	25	M10	143	20	18	89	M10x35

A . Locked cylinder rod

B. Opposite spring force

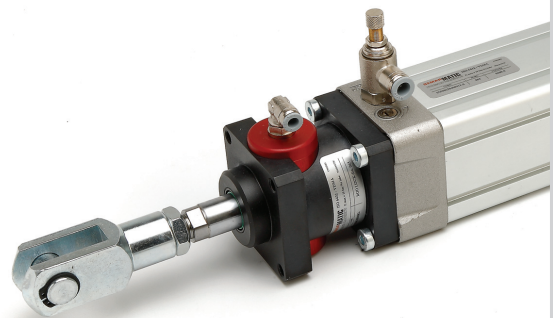
1. Piston rod is locked

2. Piston rod is unlocked

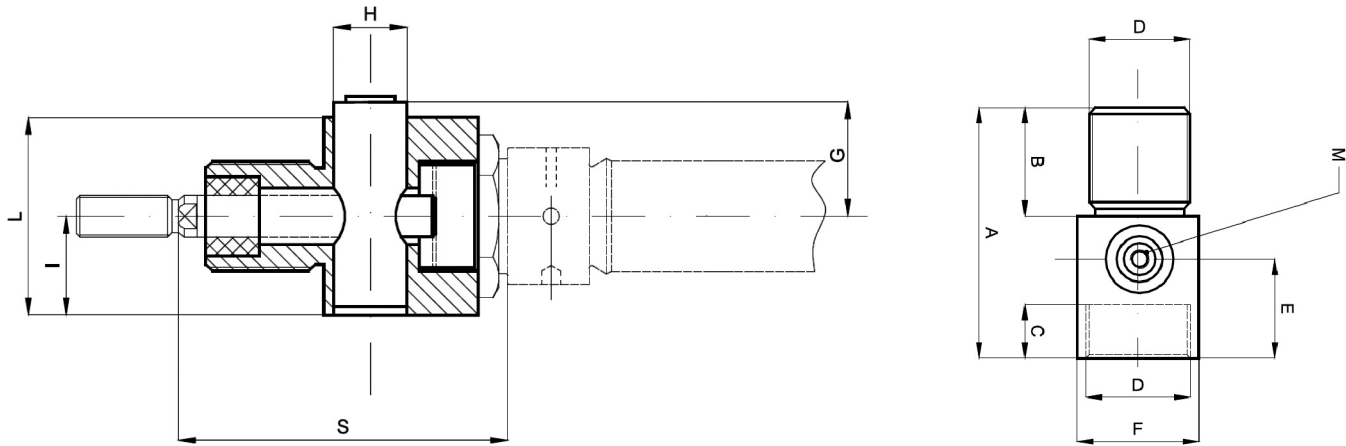


Sample application ..

ISO 15552 cylinder + Rod lock + Fork + Flow control



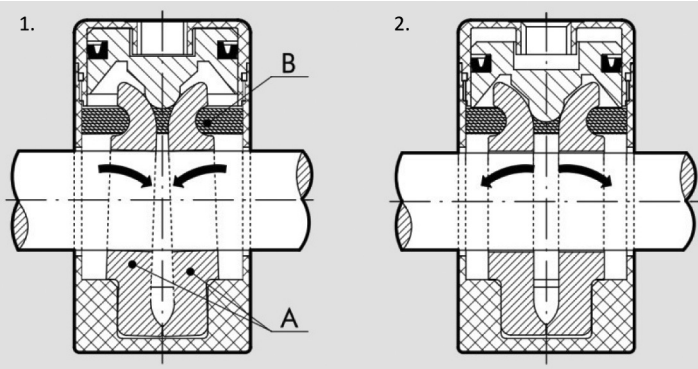
Dimensions of the rod lock unit for iso 15552 cylinder



Ø	A	B	C	E	F	G	H	I	D	L	M	S
25	58	23	12	24	27	21	20	19	M22x1,5	38	M5	72
25	58	23	12	24	27	21	20	19	M22x1,5	38	M5	74

A . Locked cylinder rod
B. Opposite spring force

1. Piston rod is locked
2. Piston rod is unlocked



Sample application ..
ISO 6432 cylinder + Rod lock



BOOSTER Ø 63 mm



BOOSTER Ø 63 mm

The Ø 63 mm Booster of SEMAKMATIC is suitable only for using with pressured air. Due to its durability, life time is max. 15 million cycles under proper condition. The compression ratio is 1 to 2 and the max. inlet pressure is 10 bar. There is an extra button on to the product for resetting the Booster.

The system is activated with two 3/2 way n.c. plunger valves by the booster piston. Main valve is 5/2 bistable double pilot.

There are also two non return valve which are integrated in to the booster body. All the parts of the booster can be disassembled easily and the product has a fully spare part guarantee.

For max. performance min. 50µm filtering is highly recommended.

Important notice 1

Always use a pressure tank for preventing fluctuation of the pressured air.

Use pressure regulator for constant inlet pressure.

Important notice 2 *

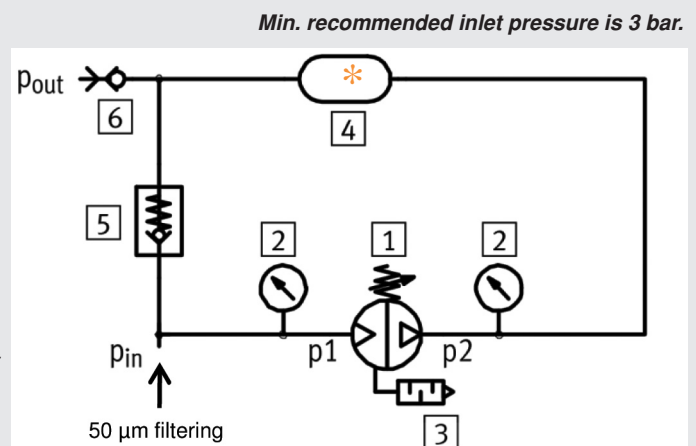
Designing a pressure tank (4) always use,

- 1) over pressure relief valve
- 2) drain valve
- 3) manometer
- 4) 2/2 way manuel valve for inlet and outlet pressure of the tank

Pin. Pressure inlet

1. Booster
2. Manometers
3. Exhaust
4. Pressure tank
5. One way valve
6. One way quick coupling

Pout Pressure outlet



FLUID	: Compressed filtered air, non oily air recommended
VERSION	: 1 → 2 BOOSTER
DIAMETERS	: Ø 63 mm
TEMPERATURES	: -10 °C / + 50 °C
Flow rates	: Max. 200 NI / min. under proper conditions (please see the flow rate chart)

Materials

Body : Anodized aluminium

Piston : Ø 63 mm Aluminium

Seals : NBR

One way valves : Brass

Piston rod : Cr 45 chromed steel

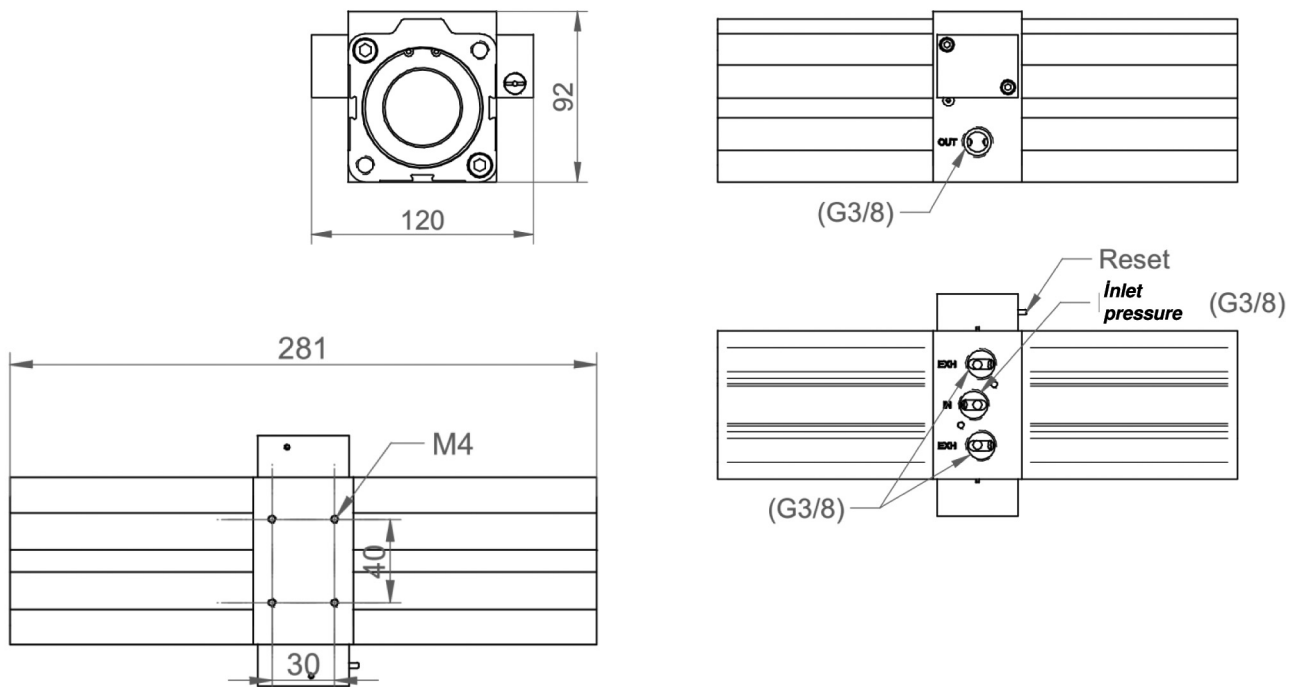
Inlet / outlet / exhaust ports : 3/8"

WORKING PRESSURE : Max. inlet pressure is 10 bar

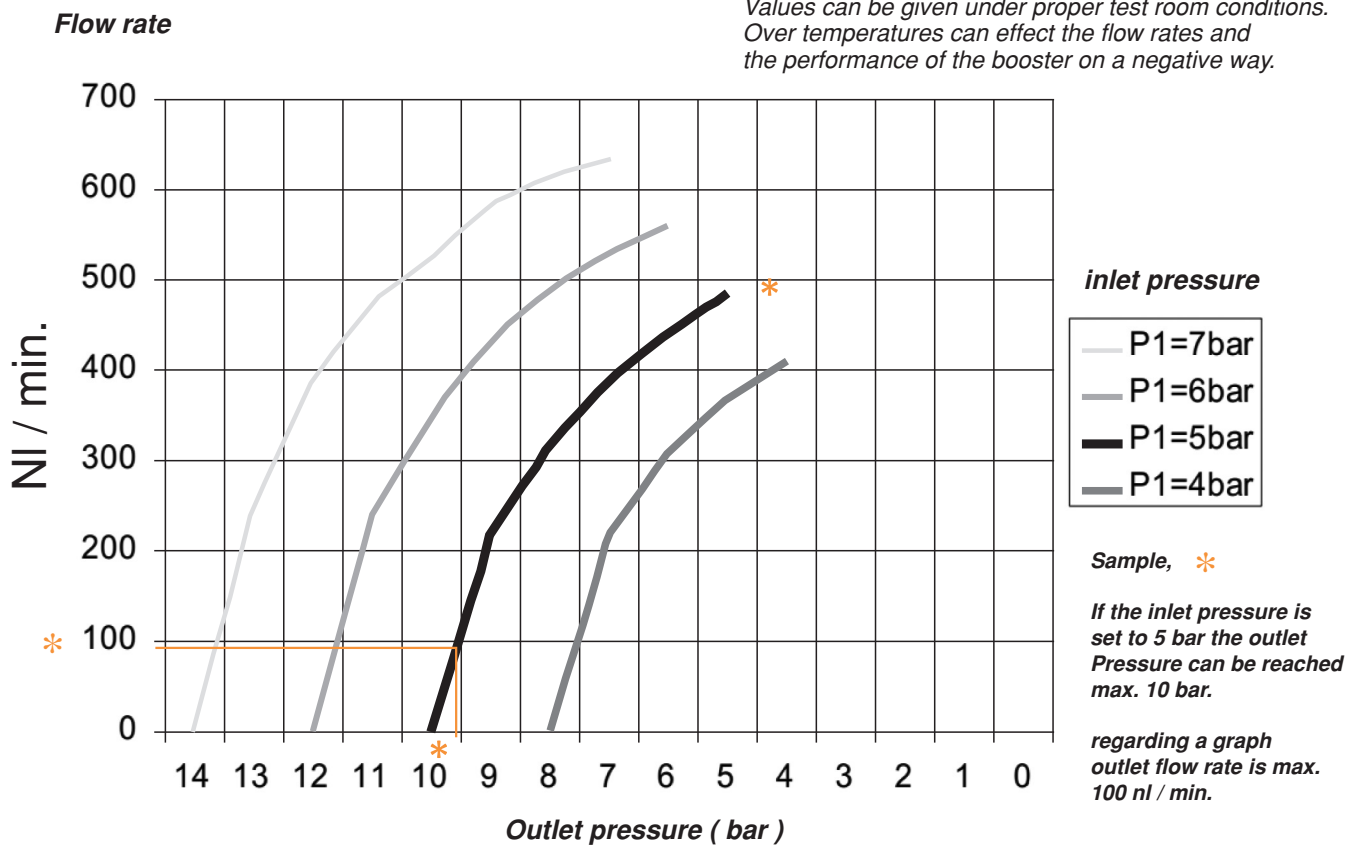
Profiles : Aluminium

Weight : 3 Kg. (excluding the accessories, regulator, silencer, ex.)

DIMENSION of the Ø 63 mm BOOSTER

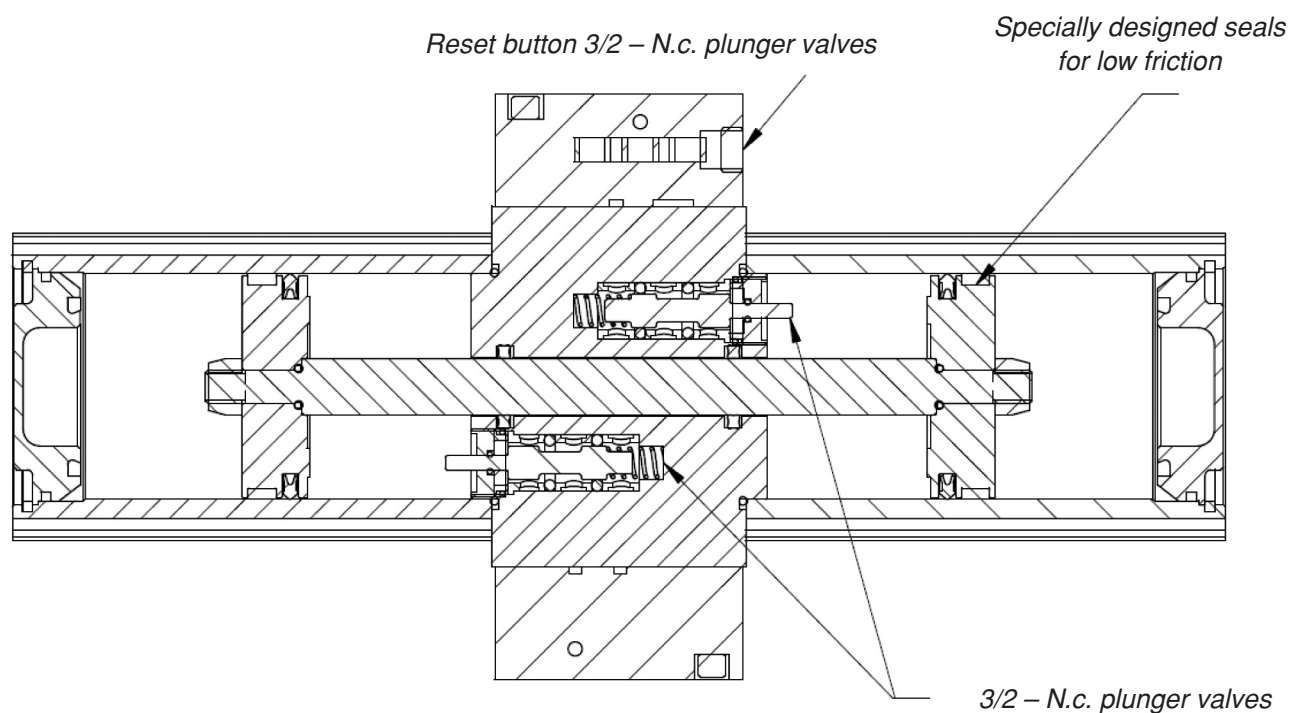


Flow rate chart of the Ø 63 mm BOOSTER

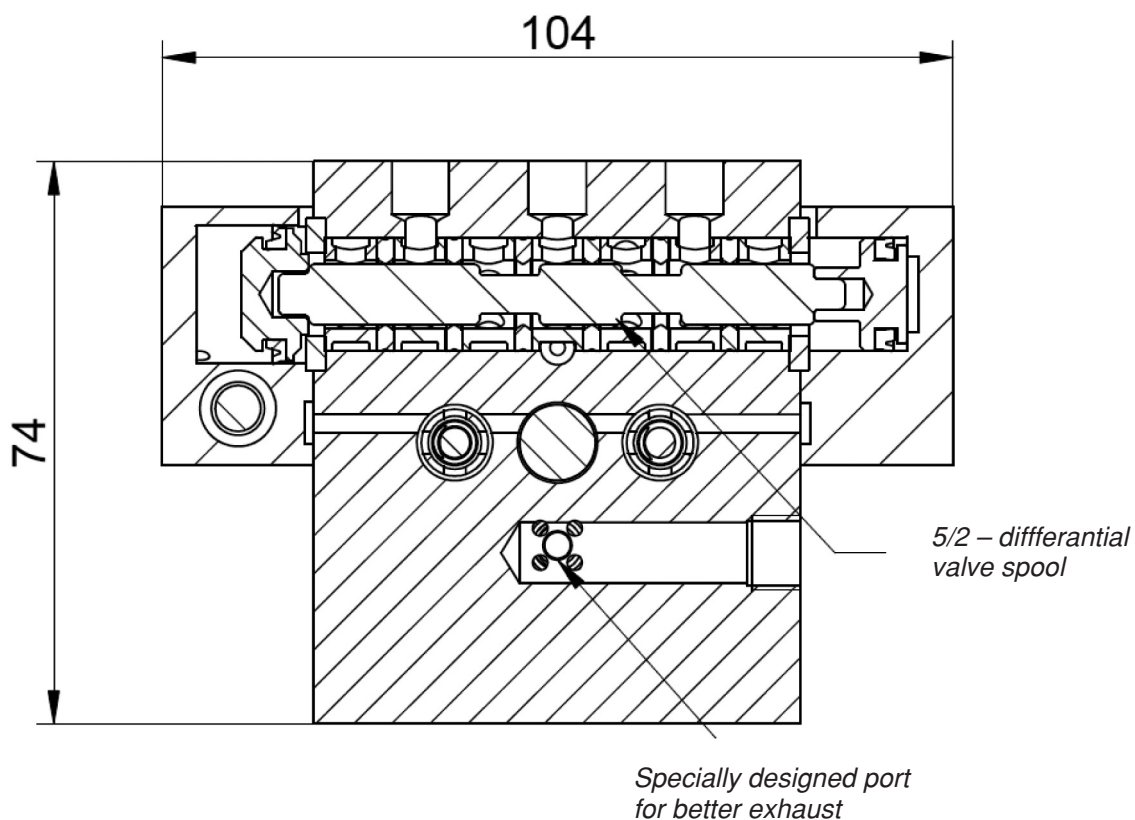


BOOSTER Ø 63 mm

INTERNAL DRAWING of the Ø 63 mm BOOSTER



INTERNAL DRAWING OF THE MAIN 5/2 WAY VALVE



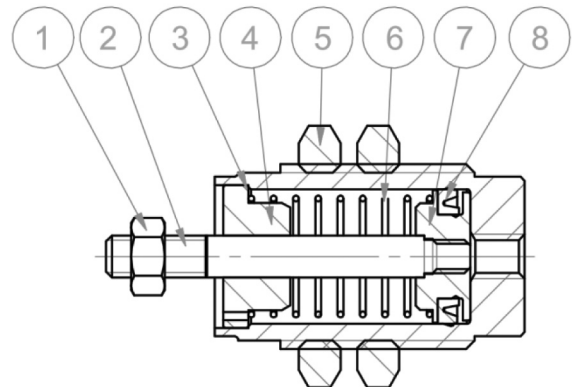
CARTRIDGE CYLINDERS



The CARTRIDGE cylinder of SEMAKMATIC has 3 different diameters. Which are Ø6 mm – Ø10 mm – Ø16 mm. All the diameters has 3 different strokes 5 mm – 10 mm – 15 mm.

All the serie supplied with 2 nuts on the body and one nut on to the rod.

The rod of material is AISI 303 stainless steel and the body is nickel coated brass.



- 1 - 5 NUT zinc coated steel
- 2. PISTON ROD (AISI 303)
- 3. TUBE (nickel coated steel)
- 4. COVERS (nickel coated steel)
- 6. SPRING steel
- 7. PISTON (AISI 303 – BRASS)
- 8. SEALS (NBR – Poliurethane)

ORDERING CODES

Ø 6 stroke 5 mm	SMS0060005T00VS
Ø 6 stroke 10 mm	SMS0060010T00VS
Ø 6 stroke 15 mm	SMS0060015T00VS
Ø 10 stroke 5 mm	SMS0100005T00VS
Ø 10 stroke 10 mm	SMS0100010T00VS
Ø 10 stroke 15 mm	SMS0100015T00VS
Ø 16 stroke 5 mm	SMS0160005T00VS
Ø 16 stroke 10 mm	SMS0160010T00VS
Ø 16 stroke 15 mm	SMS0160015T00VS

FLUID : Compressed filtered air no lubrication

VERSION : SINGLE ACTING non MAGNETIC

DIAMETERS : Ø 6 – 10 -16 mm

TEMPERATURES : -10 °C / + 50 °C

STROKES : 5 mm – 10 mm – 15 mm

Materials

Body : Nickel coated brass

Piston : AISI 303 for Ø 6 – 10 mm / brass for Ø 16 mm

Seals : NBR for Ø 6 mm / Poliurethane for Ø 10 mm – 16 mm

Spring : Steel

Pressure port : M5

NUT : Zinc coated steel

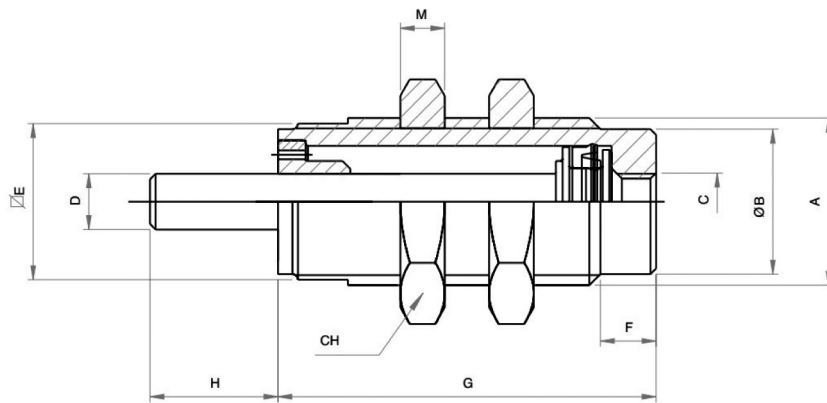
WORKING PRESSURE : Min. 2 bar / Max. 7 bar

Piston Rod : AISI 303

Cover : Nickel Coated Brass

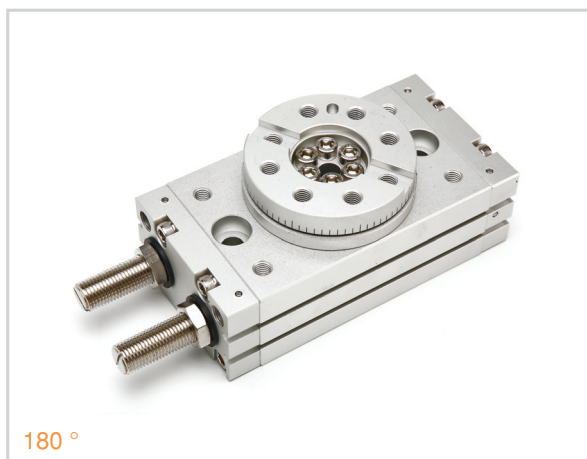
CARTRIDGE CYLINDERS

DIMENSION of the CARTRIDGE CYLINDERS



Ø	A	B	C	D	Ø E	F	H	M	CH
6	M10x1	8,5	M5	3	9	5	9	3	14
10	M15x1,5	13	M5	5	14	5	11,5	4	19
16	M22x1,5	19	M5	5	20	6	14	5	27

Ø	stroke 5 (G)	stroke 10 (G)	stroke 15 (G)
6	18,5	25,5	32,5
10	20,5	27	34
16	23,5	29,5	36



SEMAKMATIC serie of rotary actuators with double rack rotating angles 180° and adjustment angle from 0°- 90°

They are standart magnetic provided with groves on the body allowing the direct mounting of the megnetic reed switches.
The mechanical stoppers are standart.



SMS . . . 180CM0DA

ROTARY ACTUATOR 180 ° DOUBLE ACTING
MAGNETIC



Rotary cylinders are engineered in order to transform the rectilinear motion, similar of the pneumatic cylinders, into a rotating motion equipped with torque.

They are supplied with pneumatic cushioning and the angle of spin can be adjusted of about 10°.



SMS . . . 360CMYDA

ROTARY ACTUATOR 180 ° DOUBLE ACTING
MAGNETIC - CUSHIONED

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Dia. For 180 ° : Ø 15 mm * 2 / Ø 20 mm * 2 / Ø 25 mm * 2

Dia. For 360 ° ISO15552 : Ø 32 -40 – 50 – 63 – 80 – 100 – 125 mm

Temp. : -10 °C / + 50 °C

Max. pressure 180 ° : 7 bar

Max. pressure 360 ° : 10 bar

Versions : For 180 ° , double acting, magnetic, non cushioned.

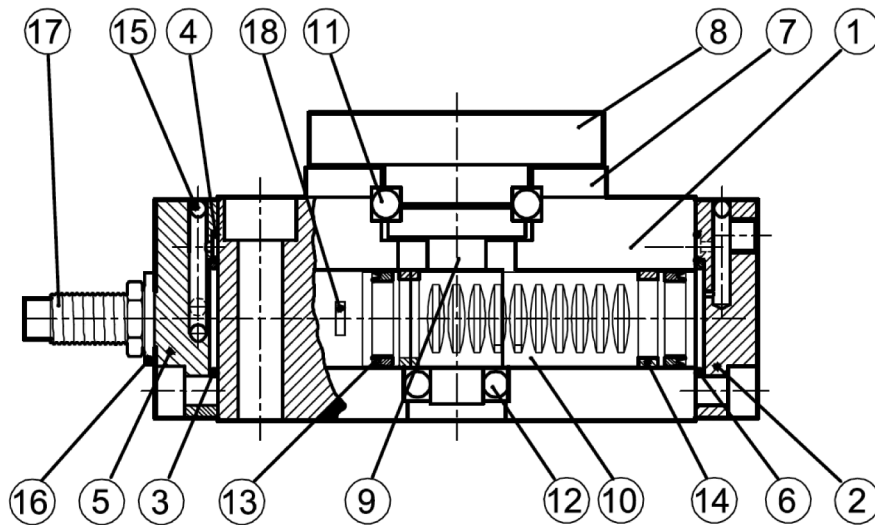
For 360 ° , double acting, magnetic, cushioned .

Rotating angle : 180 ° with manuel stopper / 360 ° with 10 ° adjusment

360 ° with male pinion / 180 ° with rotating plate

ROTARY ACTUATORS (180 °)

INTERNAL PARTS of 180 ° ROTARY ACTUATORS



- | | |
|--------------------------------------|------------------------------------|
| 1. BODY anodized aluminium | 10. RACK stainless steel |
| 2. FRONT HEAD anodized aluminium | 11. SPHERICAL BEARING steel |
| 3. O – ring NBR | 12. SPHERICAL BEARING steel |
| 4. O – ring NBR | 13. PISTON SEAL NBR |
| 5. REAR HEAD anodized aluminium | 14. WASHER Plastic material |
| 6. O – ring NBR | 15. BALL for plug .. Steel alloy |
| 7. BEARING COVER anodized aluminium | 16. LIMIT SWITCH SEAL NBR |
| 8. ROTATING PLATE anodized aluminium | 17. MECHANICAL STOPPER steel alloy |
| 9. PISTON ROD hardened steel | 18. MAGNET metal |

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 7 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Non cushioned, Double acting

Materials

Covers : Anodized aluminium

Body : Anodized aluminium

Seals : NBR

Bearings : Spherical bearings

Pressure inlet ports : M5 for Ø 15 mm * 2 and Ø 20 mm * 2 / 1/8" for Ø 25 mm * 2

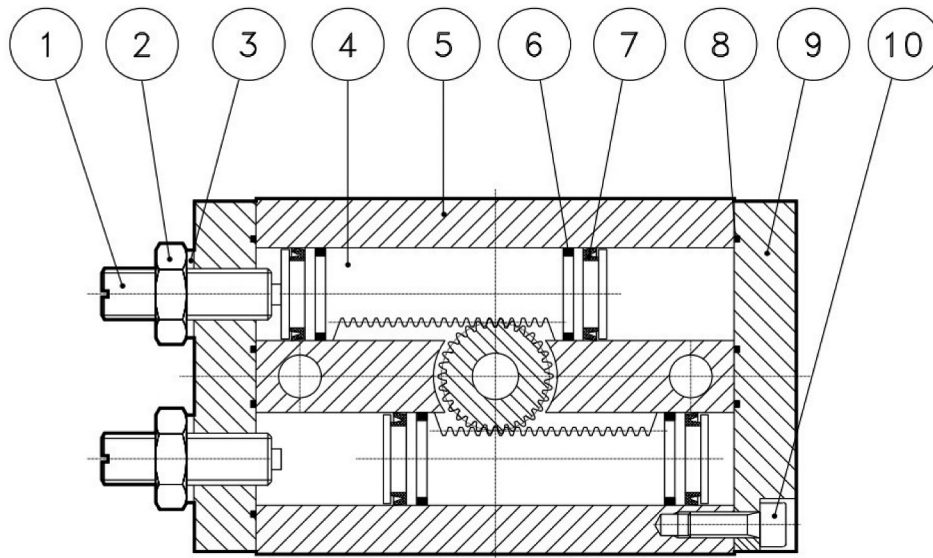
Moments (Nm) : For Ø15 mm 1,5 Nm, For Ø20 mm 3,2 Nm, For Ø25 mm 5,5 Nm

Rotating angles : Max. 180 ° with mechanical stopper

Adjusting range is between 90 °- 180 °

Diameters : Ø 15 mm * 2 / Ø 20 mm * 2 / Ø 25 mm * 2

INTERNAL PARTS of 180 ° ROTARY ACTUATORS

**ORDERING CODES for 180 ° ROTARY ACTUATOR****Ø 25 mm**

SMS0160180OCM0DA

SMS0200180OCM0DA

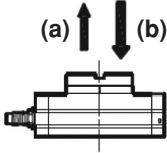
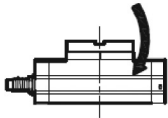
SMS0320180OCM0DA

1. *ROTARY ANGLE ADJUSTMENT SCREW steel*
2. *NUT steel*
3. *RING steel + nbr*
4. *PISTON RING*
5. *BODY anodized aluminium*
6. *GUIDE RING ptfе*
7. *PISTON SEALS nbr*
8. *O – RINGS nbr*
9. *CAPS anodized aluminium*
10. *SCREWS steel*

COD of THE SUITABLE SENSOR (TYPE 1)**2 wire**

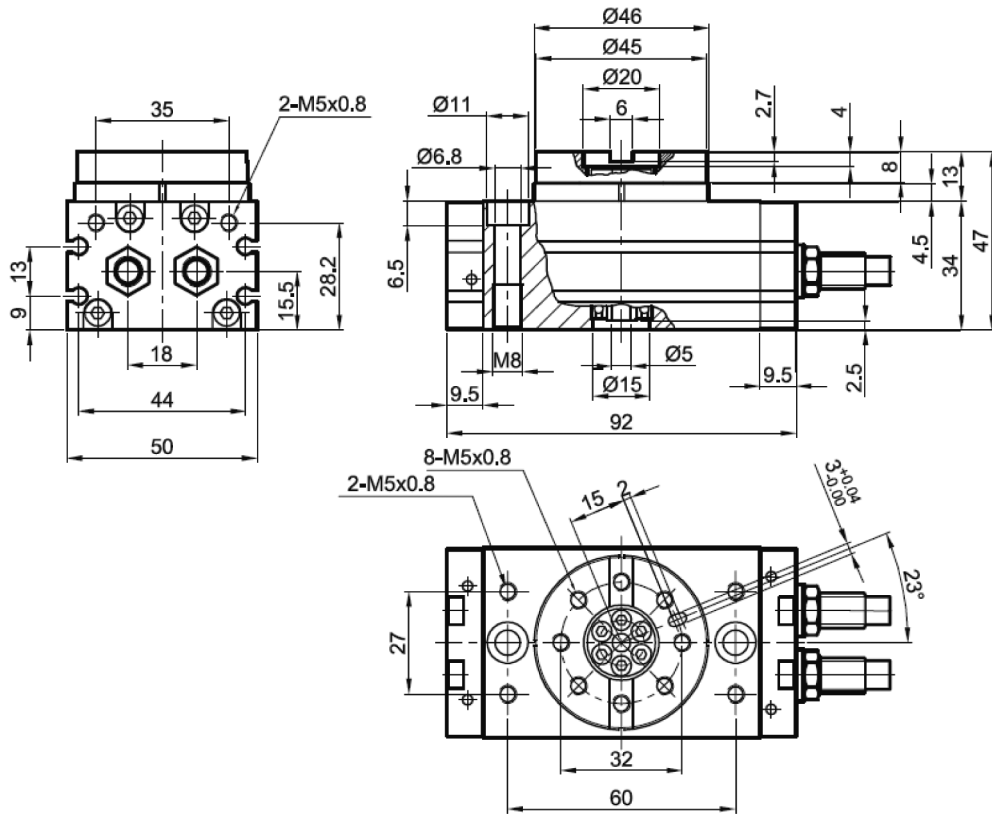
SMSS5V0115ACDC1 (5 – 115 v AC / DC)

Ø 4 mm cylindrical / TYPE 1

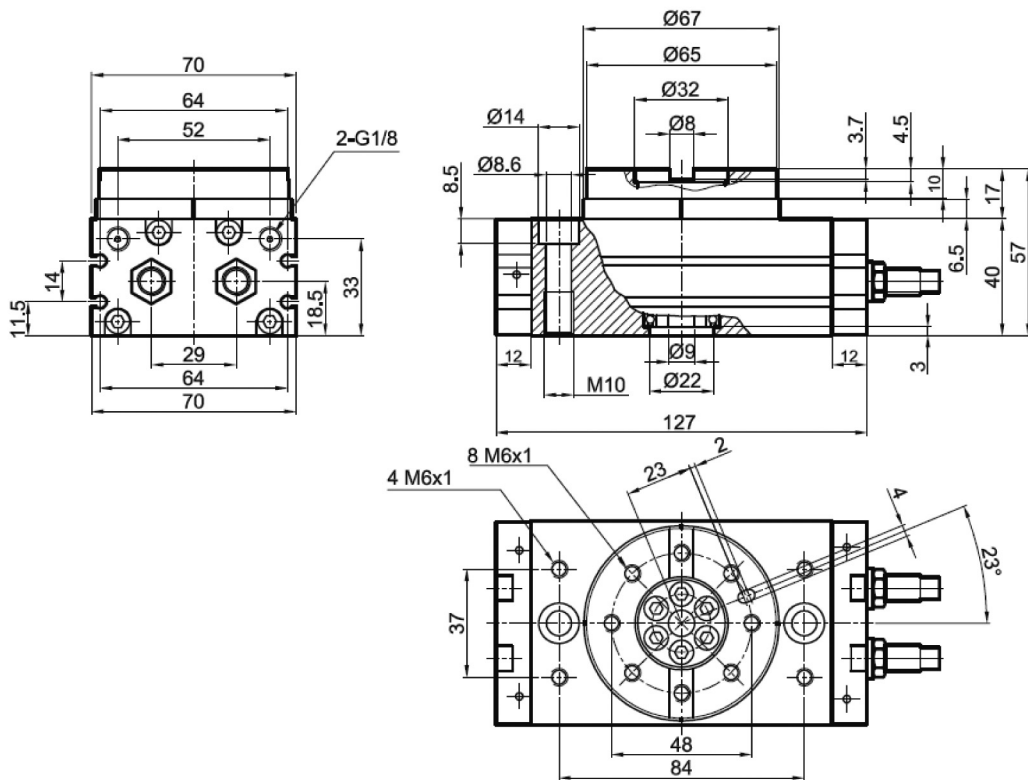
Loads for different positioning				
	Side (N)	Top (N)		Torque moment (N)
		(a)	(b)	
	Ø 15 mm * 2	70	68	70
Ø 20 mm * 2	185	188	358	4,8
Ø 25 mm * 2	300	285	442	9

ROTARY ACTUATORS (180 °)

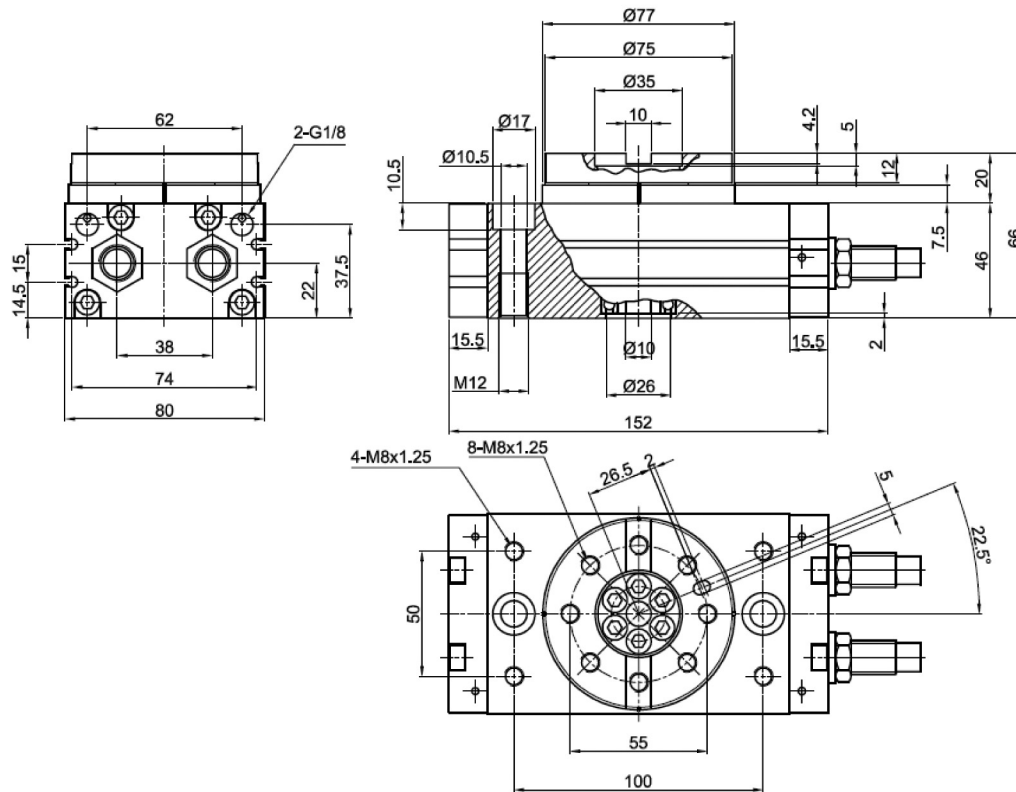
Ø 15 mm * 2 ROTARY ACTUATOR



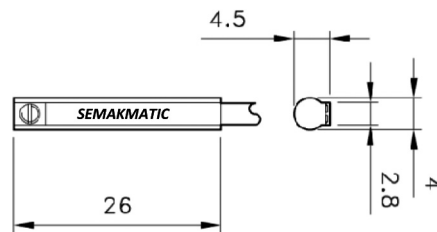
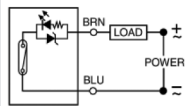
Ø 20 mm * 2 ROTARY ACTUATOR



Ø 25 mm * 2 ROTARY ACTUATOR



TYPE 1 SENSOR for ROTARY ACTUATOR

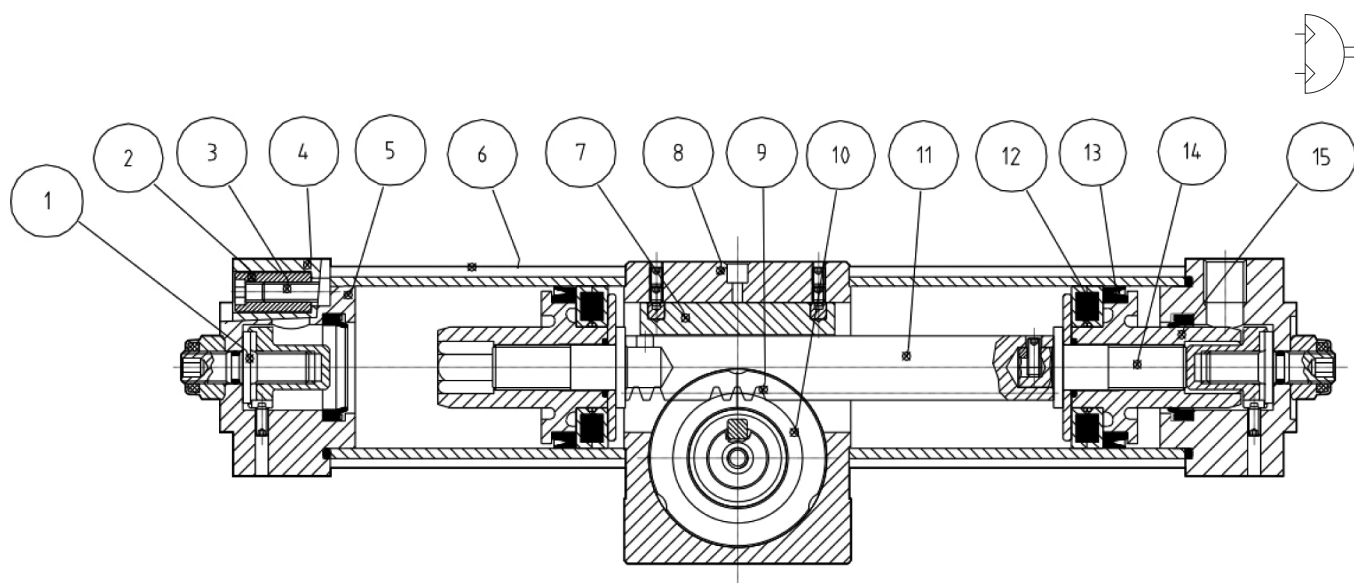


Ordering Cod.
SMSS5V0115ACDC1

Circuit	: Reed 2 wire
Switching	: Normally open N.O.
Voltage	: 5 - 115 v AC / DC
Contact Rating	: 6 W max.
Voltage drop	: 3,5 V max.
Led color	: Red
Cable	: Ø 2,8 mm Grey color

ROTARY ACTUATORS (360 ° ISO 15552)

INTERNAL PARTS of 360 ° ISO 15552 ROTARY ACTUATORS



- 1. ROTARY ANGLE ADJUSTING SCREW
- 2. NUTS steel
- 3. ROD steel
- 4. CAPS aluminium
- 5. CUSHIONING SEAL polyurethane
- 6. TUBE aluminium
- 7. GUIDE for RACK delrin
- 8. BODY aluminium
- 9. PINION steel

- 10. BALL BEARINGS steel
- 11. RACK steel
- 12. MAGNET plastoferite
- 13. SEALS polyurethane
- 14. NUTS steel
- 15. PISTON delrin

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continuous.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Cushioned, Double acting, with adjusting screw of stroke

Materials

Covers : Anodized aluminium

Body : Anodized aluminium

Seals : Polyurethane

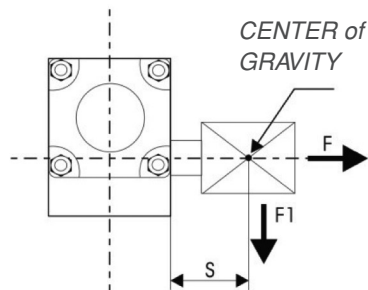
Bearings : Spherical steel bearings

Pressure inlet ports : 1/8" for dia. 32 mm, 1/4" for dia 40 – 50 mm, 3/8" for 63 – 80 mm
1/2" for dia. 100 – 125 mm

Rotating angles : 360 ° with adjustable mechanical stopper.

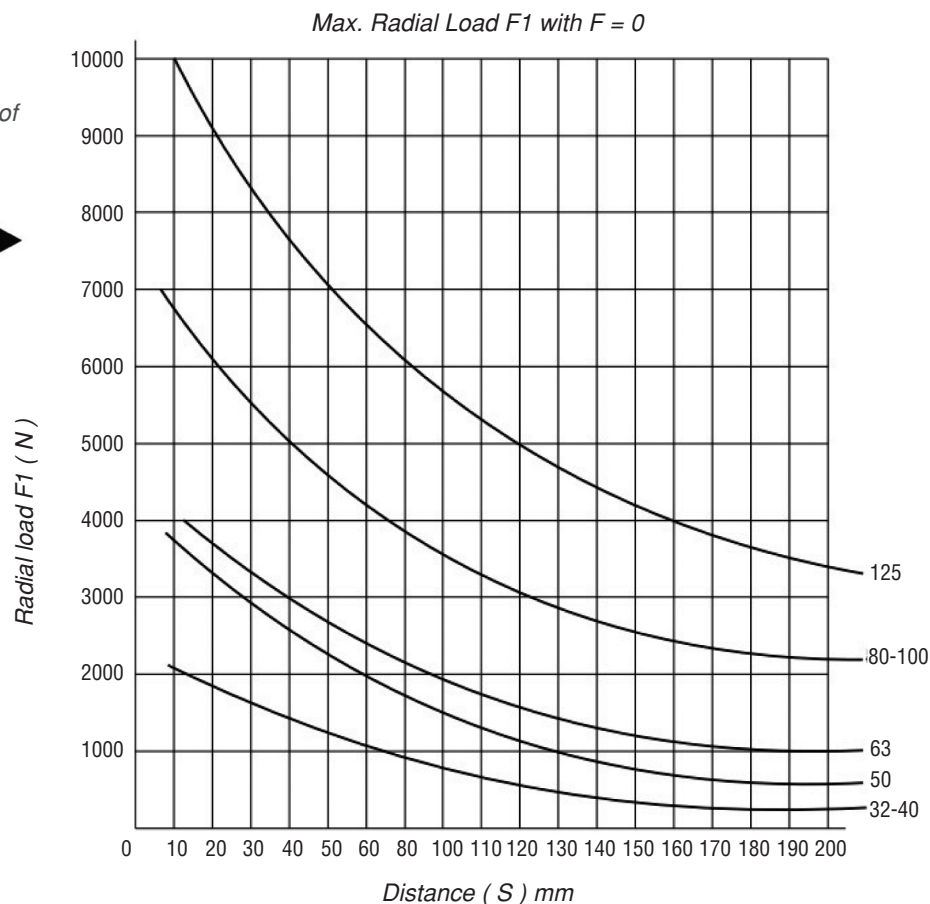
End position adjusting range is 10 °

Diameters : Ø 32 – 40 – 50 – 63 – 80 – 100 – 125 mm

ADMISSIBLE LOADS

Max. axial loads F ($f_1 = 0$)

$\varnothing 32 \dots 100 \text{ N}$
 $\varnothing 40 \dots 100 \text{ N}$
 $\varnothing 50 \dots 120 \text{ N}$
 $\varnothing 63 \dots 120 \text{ N}$
 $\varnothing 80 \dots 200 \text{ N}$
 $\varnothing 100 \dots 250 \text{ N}$
 $\varnothing 125 \dots 300 \text{ N}$

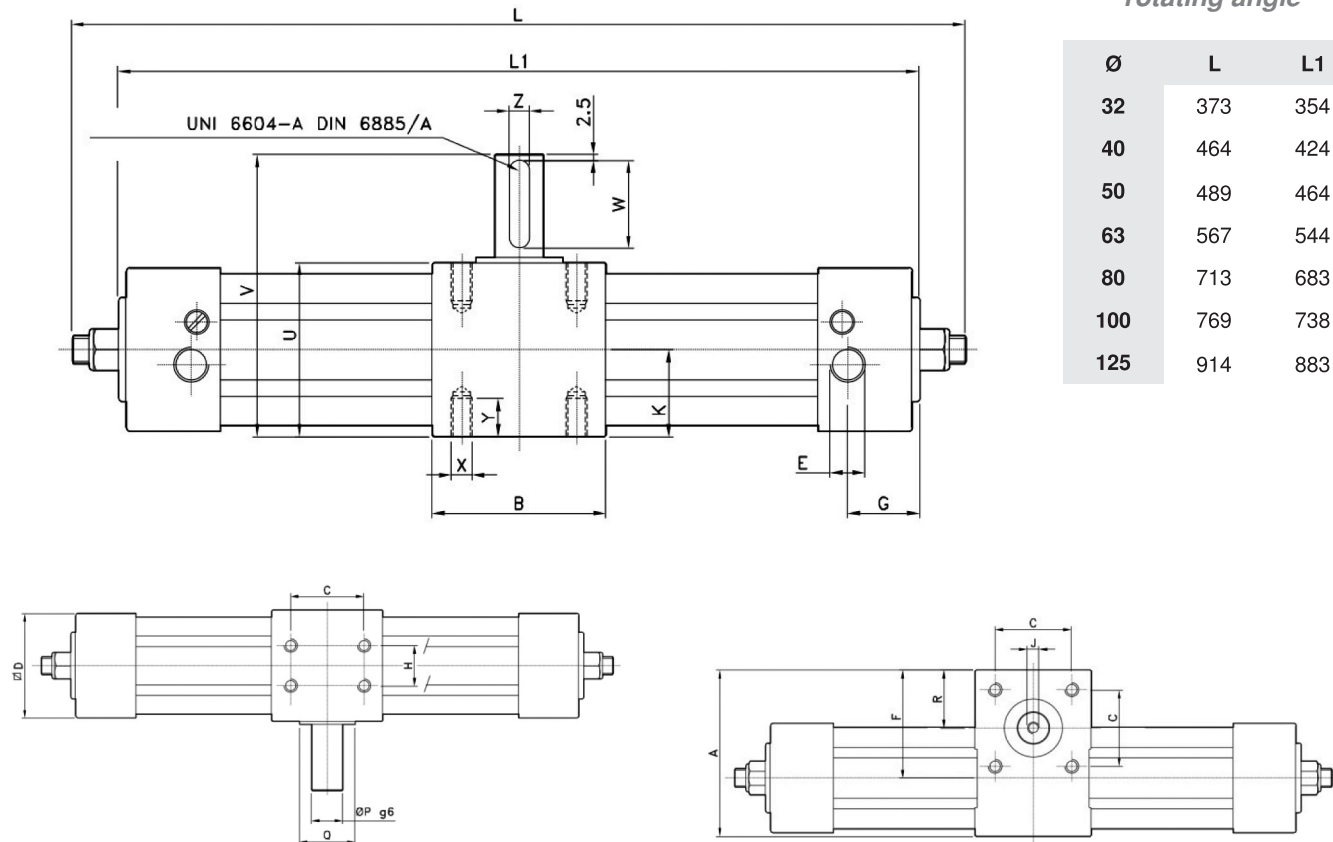
**Ø DIA. / TORQUE Nm**

Ø	Nm at 1 bar	Nm at 3 bar	Nm at 6 bar	Nm at 9 bar
32	1,2	3,7	7	11
40	2	7,5	15	20
50	4	12	25	32
63	7	25	50	80
80	15	40	80	130
100	25	90	190	270
125	50	135	270	400

ROTARY ACTUATORS (360 ° ISO 15552)

DIMENSION of ROTARY CYLINDER with male pinion

*Dimension for 360 °
rotating angle*



Ø	L	L1
32	373	354
40	464	424
50	489	464
63	567	544
80	713	683
100	769	738
125	914	883

Ø	A	B	C	D	E	F	G	H	J	K	P	Q	R	U	V	X	Y	Z	W
32	71,5	50	33	48	1/8"G	46,5	18	18	M5	25	14	25	25	50	81	M6	10	5	25
40	82	60	40	54	1/4"G	54,5	21	22	M5	30	14	25	30	60	91	M6	10	5	25
50	93	70	50	67	1/4"G	60,5	24	25	M6	32,5	19	30	32,5	65	106	M8	13	6	35
63	109	75	60	78	3/8"G	70,8	26	35	M8	37,5	24	30	37	75	116	M8	13	8	35
80	142	99	80	97	3/8"G	93,5	26	50	M8	49,5	28	45	50	99	150	M10	16	8	45
100	156,5	115	80	115	1/2"G	99	30	60	M10	57,5	38	50	54	115	166	M10	16	10	45
125	188	125	90	140	1/2"G	118	32	70	M10	70	38	60	60	140	191	M12	20	10	45

STANDART SENSORS

ordering code for 2 wire sensor : SMSS5V0230ACDC0

ordering code for 3 wire PNP sensor : SMSS5V030PNPDC0

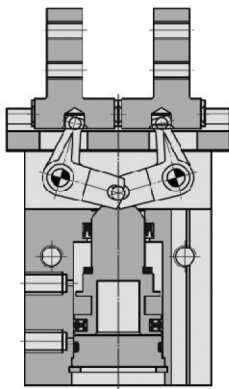
For the sensor details please see page 1.92

PARALLEL GUIDED GRIPPERS



Parallel guided grippers

- ❑ Integrated linear guide rail.
- ❑ Suitable for high rigidity and precision applications.
- ❑ Durable fingers.
- ❑ Max. operating frequency is 120 per sec.
- ❑ Ø 4 mm sensor can be mounted on two sides.
- ❑ Repeatability + / - 0,05 mm



Internal view

ORDERING CODES

ordering code for Ø 16 mm	: SMS01600KPCM0GR
ordering code for Ø 20 mm	: SMS02000KPCM0GR
ordering code for Ø 25 mm	: SMS02500KPCM0GR

ORDERING CODE FOR SENSOR

ordering code for 2 wire sensor (TYPE 1)	: SMSS5V0115ACDC1
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Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continuous.

Pressure range : max. 7 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Non cushioned, Double acting

Materials

Fingers : Bearing steel

Body : Anodized aluminium

Seals : Nbr seals

Guide : Stainless steel

Caps : Aluminium anodized

Levers : Hardened steel

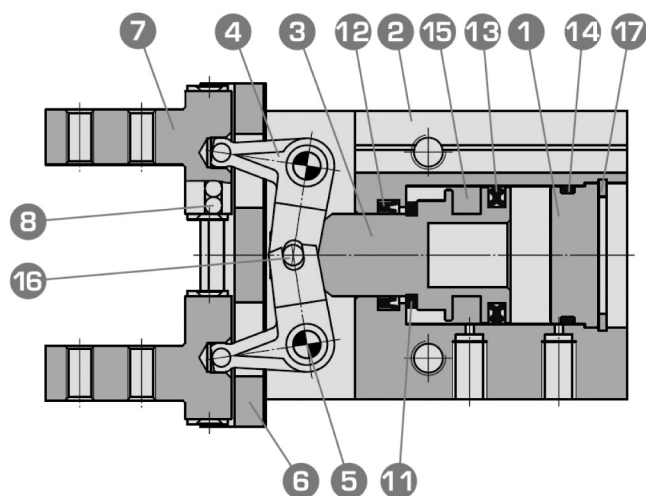
Available series : Guided

Standart diameters : Ø 16 mm – Ø 20 mm – Ø 25

Standart strokes : 6 mm for Ø 16 mm .. 10 mm for Ø 20 mm .. 14 mm for Ø 25 mm

PARALLEL GUIDED GRIPPERS

INTERNAL PARTS

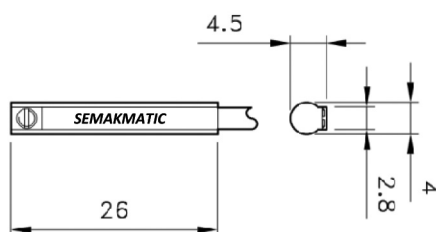
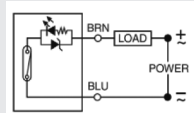


1. REAR END COVER
2. BODY anodized aluminium
3. PISTON ROD
4. LEVER
5. FIXED PIN
6. GUIDE stainless steel
7. FINGER bearing steel
8. STEEL BALL
9. ROLLER STOPPER
10. FINGER PIVOT
11. BUMPER (pu.)
12. PISTON ROD SEAL Nbr
13. PISTON SEAL Nbr
14. END COVER SEAL Nbr
15. RUBBER MAGNET
16. DRIVE PIN
17. SNAP RING

TYPE 1 SENSOR



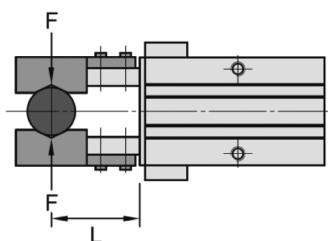
TYPE 1



Ordering Cod.
SMSS5V0115ACDC1

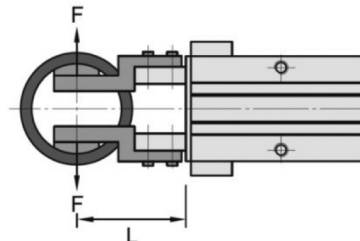
Circuit	: Reed 2 wire
Switching	: Normally open N.O.
Voltage	: 5 - 115 v AC / DC
Contact Rating	: 6 W max.
Voltage drop	: 3,5 V max.
Led color	: Red
Cable	: Ø 2,8 mm Grey color

External / Internal GRIPPING FORCE



External GRIPPING FORCE (N.) L max. 30 mm

Ø mm / bar	3 bar	5 bar
16 mm	15	25
20 mm	20	30
25 mm	25	35

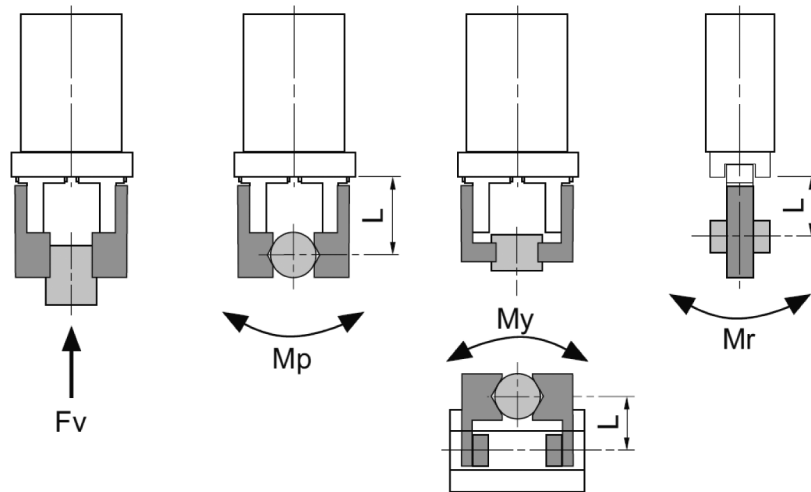


Internal GRIPPING FORCE (N.) L max. 30 mm

Ø mm / bar	3 bar	5 bar
16 mm	30	45
20 mm	35	50
25 mm	40	55

PARALLEL GUIDED GRIPPERS

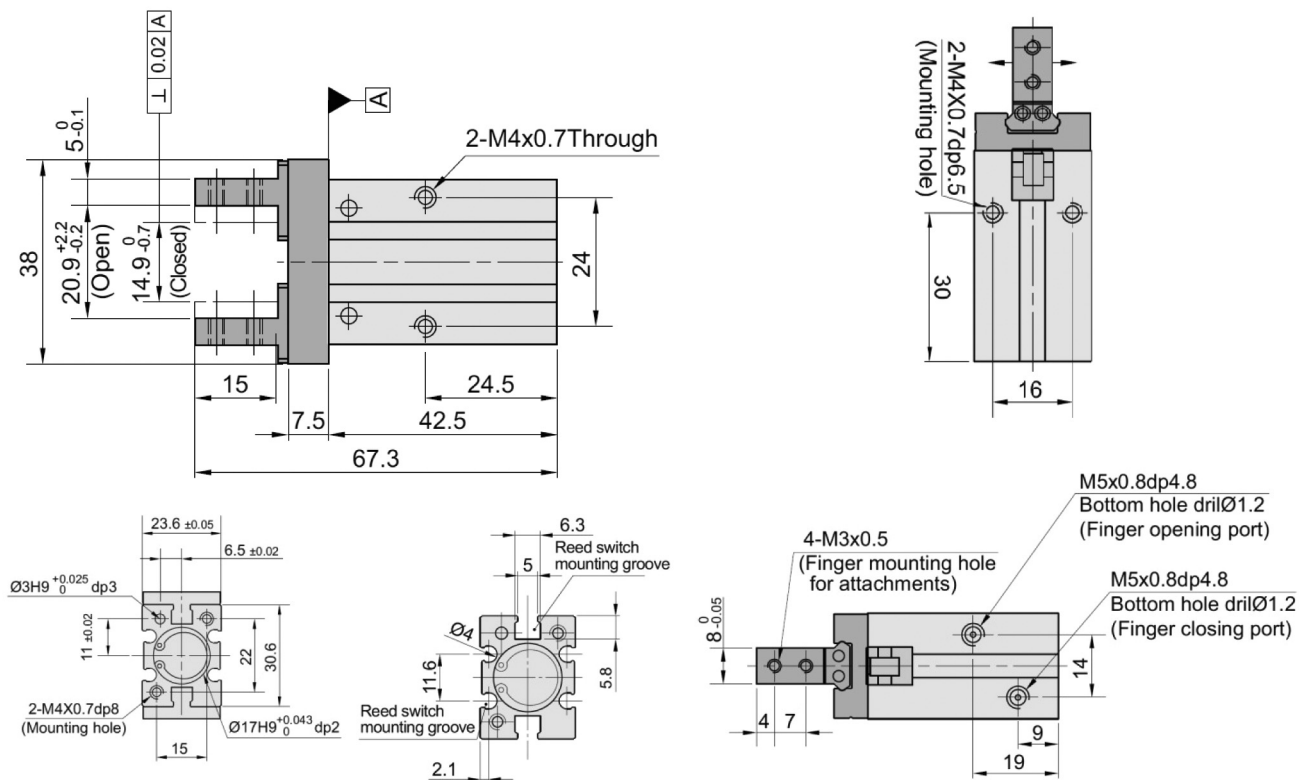
Maximum forces (Kg.) and allowable moments (N.m)



Max. L : 30 mm

Ø mm / FORCE	Fv (kg.)	Mp (N.m)	My (N.m)	Mr (N.m)
16 mm	3,2	0,7	0,7	0,5
20 mm	4,3	1,4	1,4	1,0
25 mm	5,3	2,0	2,0	1,5

DIMENSIONS for Ø 16 mm



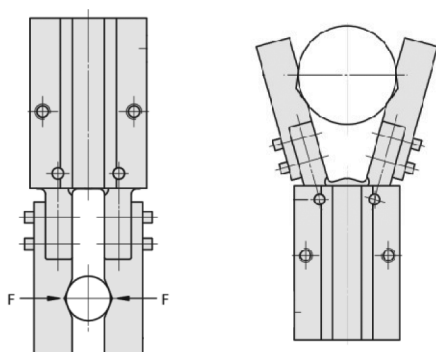
DIMENSIONS for Ø 20 mm





30 ° ANGLE GRIPPERS

- ❑ Open 30 °, close 10°angle.
- ❑ Durable fingers.
- ❑ Max. operating frequency is 120 per sec.
- ❑ Ø 4 mm sensor can be mounted on two sides.
- ❑ Min working pressure is 1 bar.
- ❑ Double acting and magnetic version is standart



Application samples

ORDERING CODES

ordering code for Ø 16 mm	: SMS0160030CM0GR
ordering code for Ø 20 mm	: SMS0200030CM0GR
ordering code for Ø 25 mm	: SMS0250030CM0GR

ORDERING CODE FOR SENSOR

ordering code for 2 wire sensor : SMSS5V0115ACDC1
(TYPE 1)

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 7 bar

Temperature range : - 10 °C / + 50 °C

Version : Magnetic, Non cushioned, Double acting

Materials

Fingers : Heat threaded

Body : Anodized aluminium

Seals : Nbr seals

Guide : Non guided

Caps : Aluminium anodized

Closed angle : 10 °

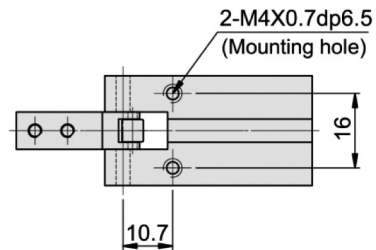
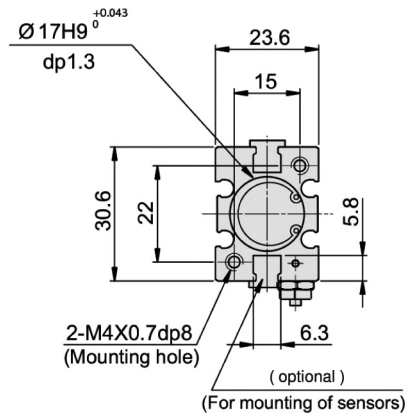
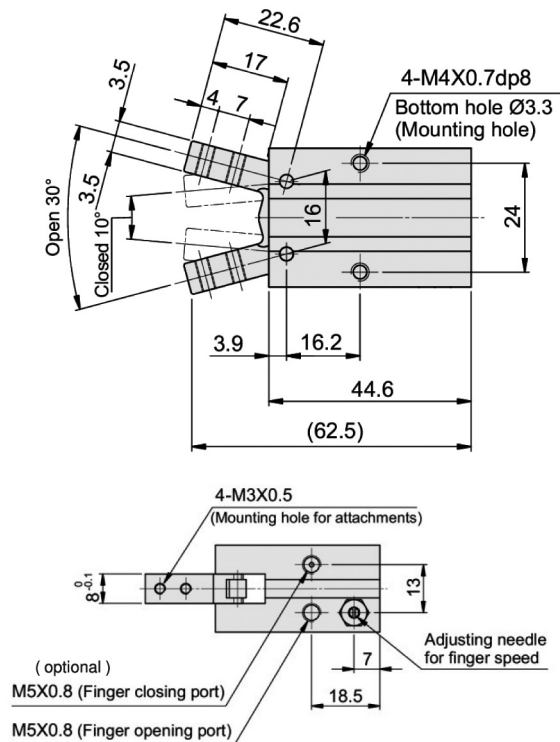
Available series : 30 ° ANGLE

Standart diameters : Ø 16 mm – Ø 20 mm – Ø 25

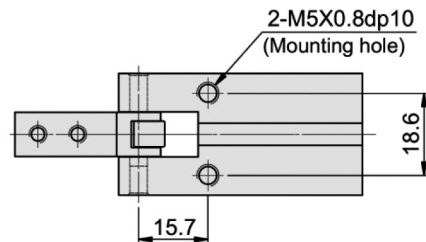
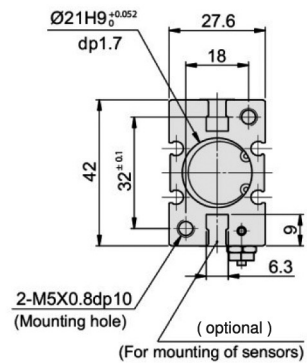
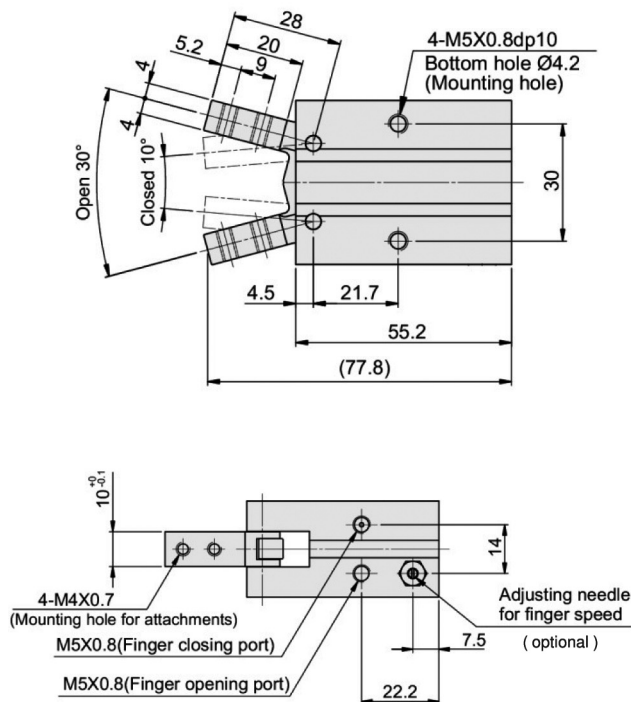
Pressure port : M5

30 ° ANGLE GRIPPER

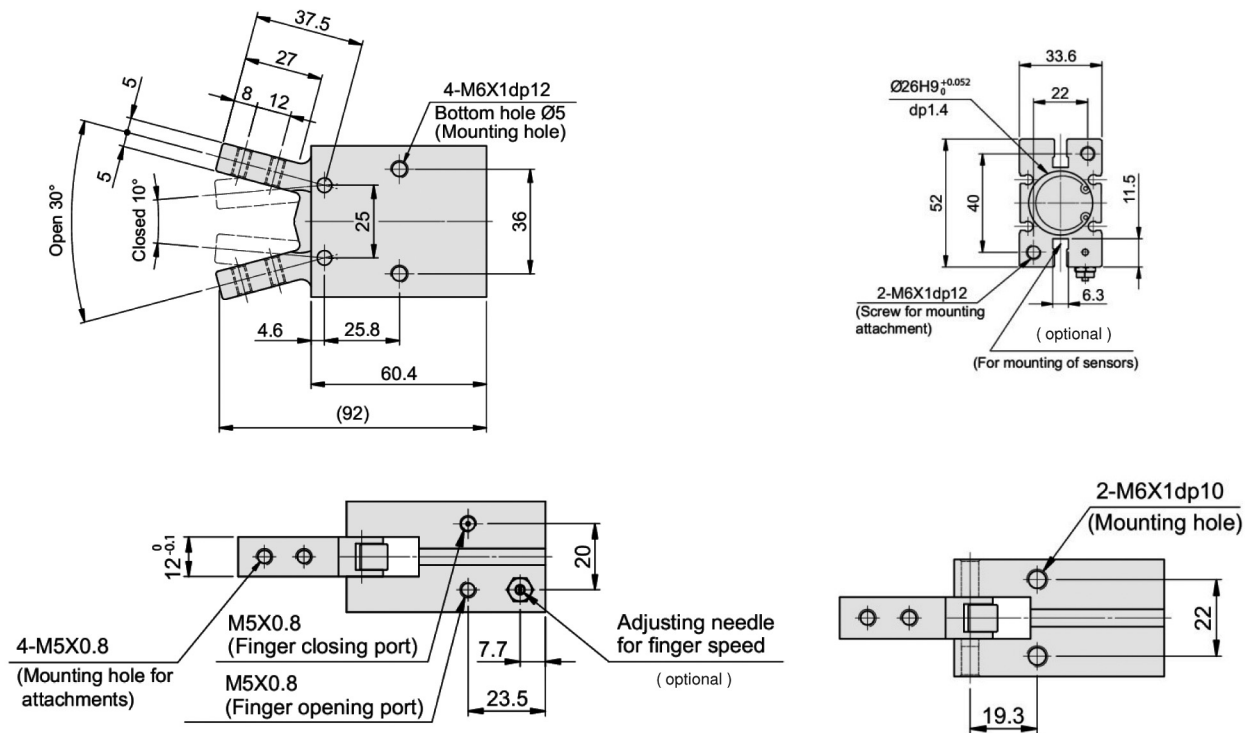
DIMENSIONS for Ø 16 mm



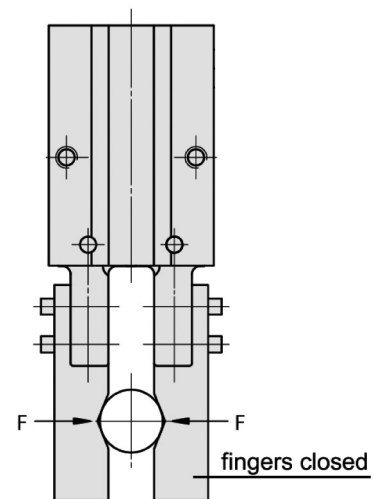
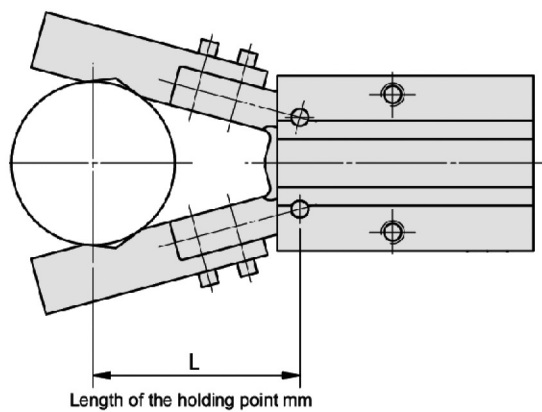
DIMENSIONS for Ø 20 mm



DIMENSIONS for Ø 25 mm



EFFECTIVE HOLDING FORCE



Effective holding FORCE (N.) L max. 30 mm

Ø mm / bar	3 bar	5 bar
16 mm	5	10
20 mm	10	15
25 mm	20	25

ISO 15552 CYLINDERS STAINLESS STEEL



STAINLESS STEEL ISO 15552

New serie of stainless steel cylinders conforms the standart of ISO 15552. Round tube and tie rod connection is standart with cushioning for the ISO 15552 serie. Magneting and double acting are also standart. Scraper ring in VITON specially suitable for chemical and harsh environment.

The clean and modern design is also usefull for food industry. There are no external casting cavities for the caps. ISO 6432 also has a perfect design and has cushioning option for ordering.



STAINLESS STEEL ISO 6432

ORDERING CODES

ordering code for ISO 15552	: SMS ... / CMYIN
ordering code for ISO 6432	: SMS ... / CMOIN
Cushioned for ISO 6432	: SMS ... / CMYIN

SPECIAL NOTES

- * INOX SERIE HAS STANDART VITON SEALS.
- * MAGNETIC and CUSHIONED for ISO 15552.
- * CUSHIONED is OPTIONAL ONLY for ISO 6432.

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious.

Pressure range : max. 10 bar

Temperature range : - 10 °C / + 110 °C

Version : Magnetic, Cushioned, Double acting (cushioning is optional for ISO 6432)

Materials

Covers : 316 stainless steel

Barrel : 316 stainless steel / 304 stainless steel for ISO 6432

Seals : VITON

Bush : Bronze

Piston Rod : 316 stainless steel (lapped)

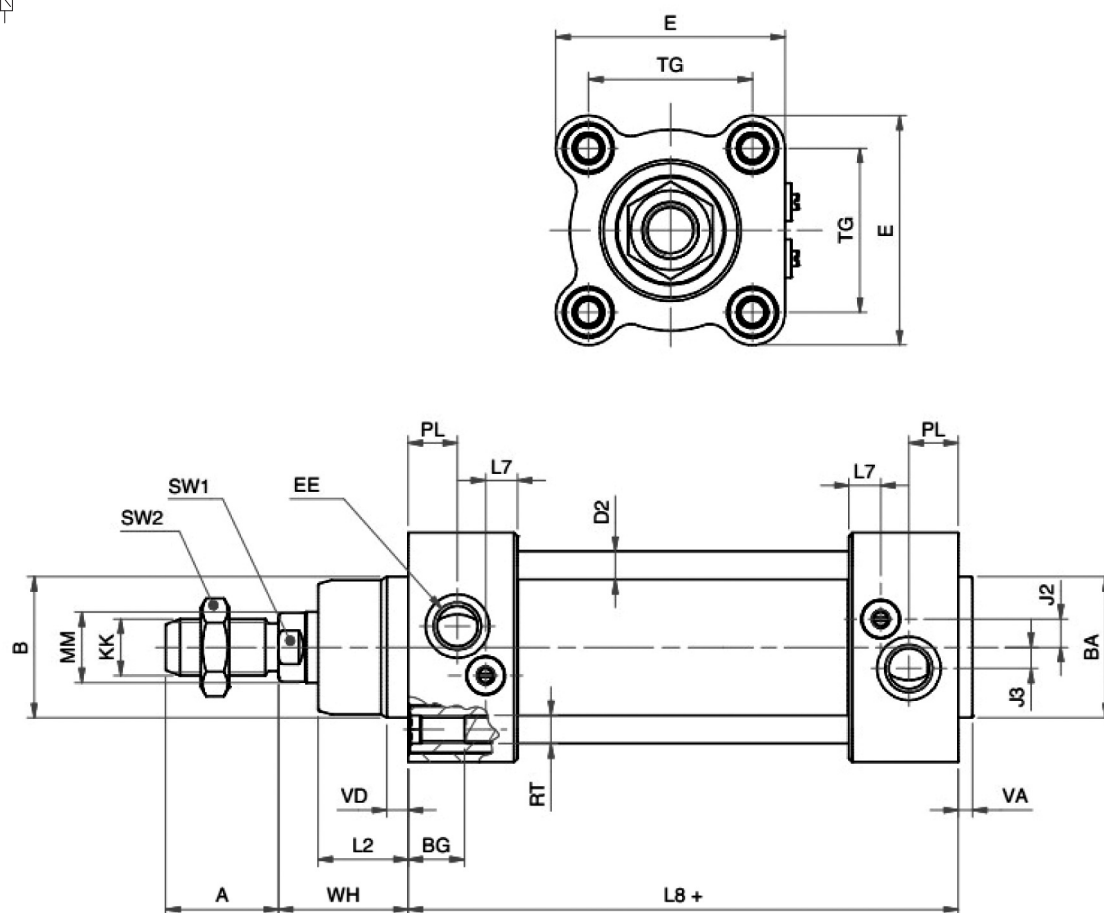
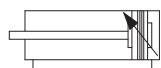
Screws and tie rods : 316 stainless steel

Available diameters : For ISO 15552 Ø 32 – 40 – 50 – 63 – 80 – 100 mm

For ISO 6432 Ø 16 – 20 – 25 mm

Standart strokes : 25 – 50 – 80 – 100 – 125 – 200 – 250 – 320 – 400 – 500 mm

ISO 15552 STAINLESS STEEL (SMS ... / ... CMYIN)



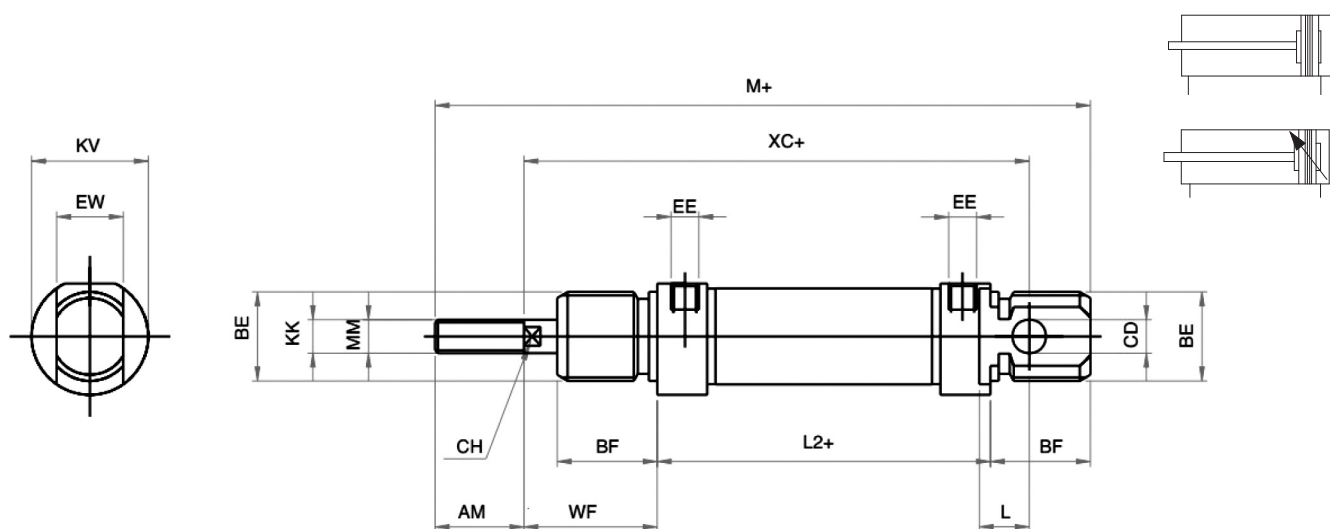
+ add stroke length

Ø	A	Ø B	Ø BA	BG	Ø D2	E	J2	J3	L2	L7	L8+	PL	RT	TG	VA	VD	WH
32	22	30	30	16	6	48	6,6	5,3	18	7,2	94	13	M6	32,5	4	5	26
40	24	35	35	16	6	52	8,5	5	22	9,2	105	14	M6	38	4	5	30
50	32	40	40	16	8	65	8	6	25,5	9	106	14	M8	46,5	4	6	37
63	32	45	45	16	8	75	10	6,5	26	9,5	121	16	M8	56,5	4	6	37
80	40	45	45	18	10	95	8	8	32	11	128	16	M10	72	4	7	46
100	40	55	55	18	10	115	15	7	38	12	138	18	M10	89	4	7	51

Ø	KK	EE	Ø MM	SW1	SW2
32	M10x1,25	G1/8"	12	10	17
40	M12x1,25	G1/4"	16	13	19
50	M16x1,5	G1/4"	20	17	24
63	M16x1,5	G3/8"	20	17	24
80	M20x1,5	G3/8"	25	22	30
100	M20x1,5	G1/2"	25	22	30

ISO 6432 CYLINDERS & ATTACHMENTS STAINLESS STEEL

ISO 6432 STAINLESS STEEL (SMS ... / CM. IN)

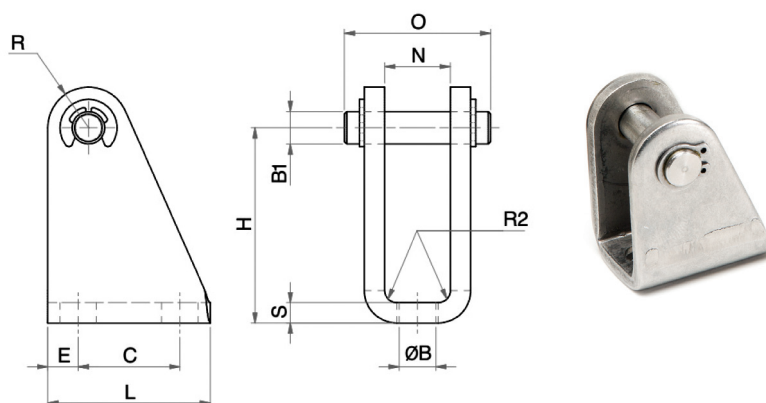


+ add stroke length

Ø	KK	MM	BE	EW	KV	CD	BF	EE
16	M6	6	M16x1,5	12	19	6	18	M5
20	M8	8	M22x1,5	16	27	8	20	1/8G
25	M10x1,25	10	M22x1,5	16	30	8	22	1/8G

Ø	WF	AM	M+	L	L2+	XC+	CH
16	22	16	109	9	53	82	5
20	24	20	131	12	67	95	7
25	28	22	140	12	68	104	9

Ø 16 , 20 / 25 mm FEMALE HINGE (SMS ... AKSINOXEB)



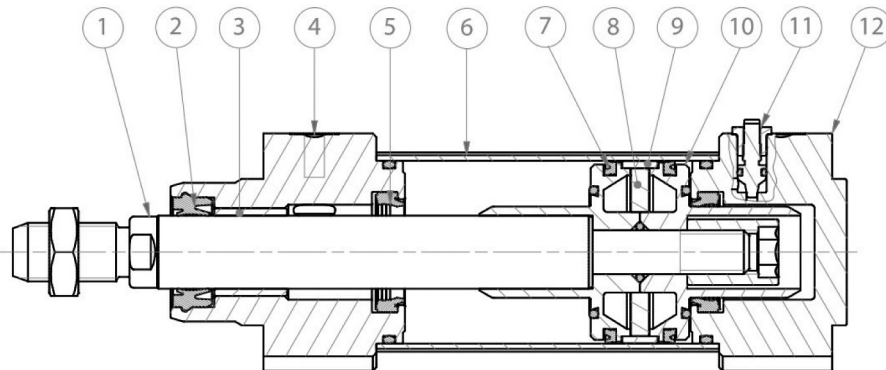
ORDERING CODES

Ø 16 mm	SMS016AKSINOXEB
Ø 20 / 25 mm	SMS025AKSINOXEB

Ø	L	H	B1	S	E	C	N	B	O	R	R2
16	25	27	6	3	5	15	12,1	5,5	24	7	1,5
20-25	32	30	8	4	6	20	16,1	6,6	31	10	2

STAINLESS STEEL CYLINDERS

INTERNAL PARTS of the ISO 15552 CYLINDER



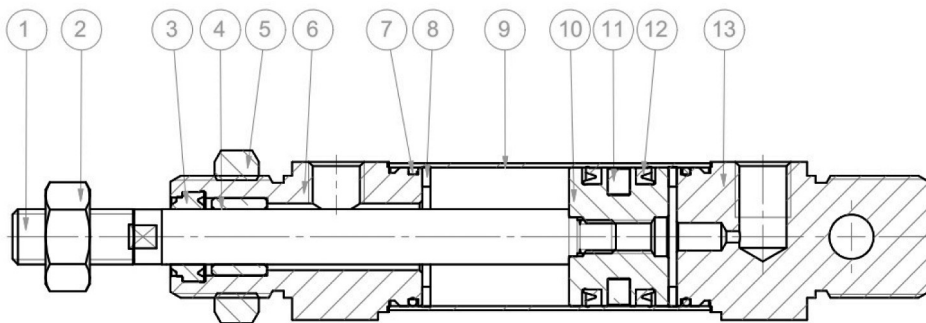
Ø 125 – Ø 160 – Ø 200 mm

Are specially designed

Please contact with the
sales department for the drawings.

1. ROD .. Stainless steel 316
- 2 – 5 - 7 SEALS .. VITON
3. BUSH .. Bronze
4. COVERS .. Stainless steel 316
6. BODY (cylindrical) stainless steel 316
8. MAGNET elastic
9. GUIDE RING ptfе
10. PISTON die cast aluminium
11. CUSHIONING pneumatically

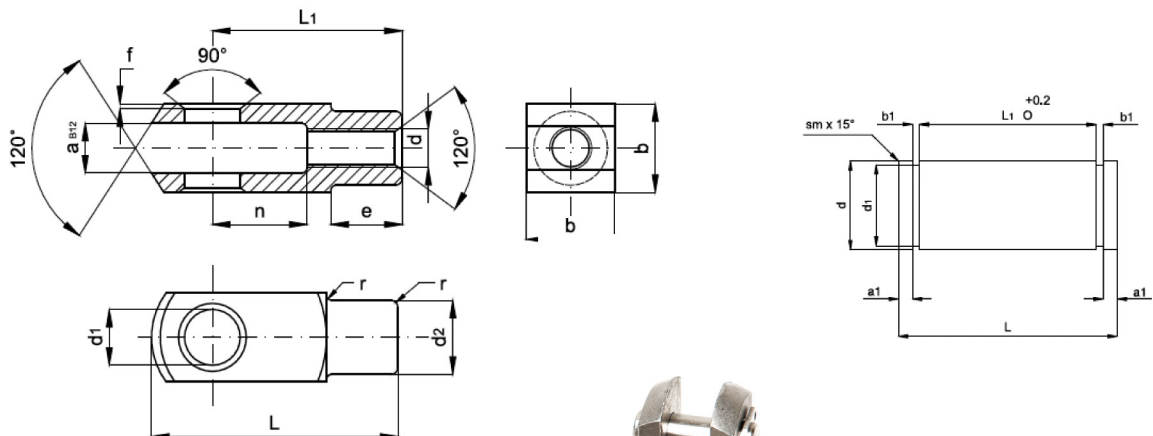
INTERNAL PARTS of the ISO 6432 CYLINDER



1. ROD .. AISI 316 stainless steel
- 2 – 5 NUTS AISI 304 stainless steel
- 3 – 7 – 12 SEALS VITON
4. BUSH sintered bronze
- 6 – 13 COVERS AISI 316
8. CUSHIONING elastic
9. TUBE AISI 304 stainless steel
10. PISTON Brass
11. MAGNET rubber

ATTACHMENTS (FRONT) (STAINLESS STEEL)

Ø 16 mm – Ø 100 mm CLEVIS (fork) ISO (SMS . . . AKSINOXCB)



Ø 125 – Ø 160 – Ø 200 mm

Are specially designed

Please contact with the

sales department for the drawings.

ORDERING CODES

Ø 16 mm	SMS016AKS0000CB
Ø 20 mm	SMS020AKS0000CB
Ø 25 - 32 mm	SMS032AKS0000CB
Ø 40 mm	SMS040AKS0000CB
Ø 50 - 63 mm	SMS050AKS0000CB
Ø 80 - 100 mm	SMS080AKS0000CB

Clevis (fork) conforms to ISO 8140 standards. Standard version, completed with rod and seagers.

Materials,

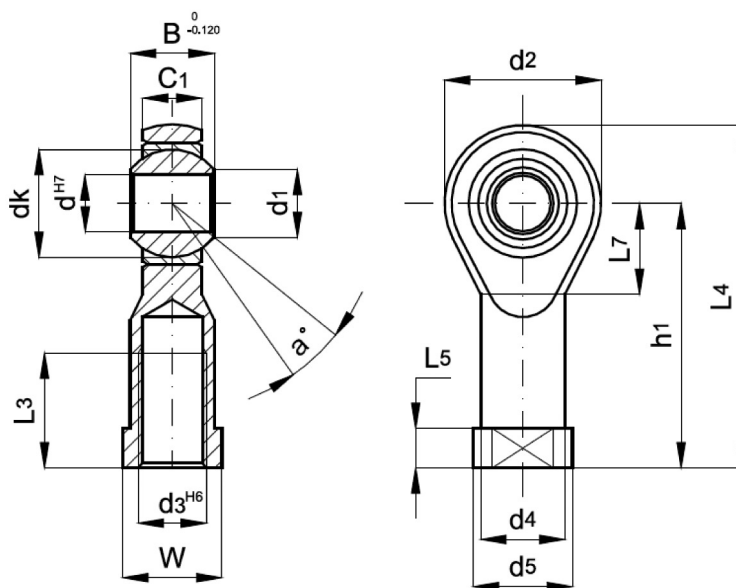
Body .. AISI 316 stainless steel

Rod & seagers AISI 316 stainless steel

Ø	a	a1	b1	b	d1	d3	L2	d2
16	6	1	1,1	12	6	...	16	10
20	8	1	1,1	16	8	...	22	14
25-32	10	1,5	1,1	20	10	9,6	25	18
40	12	2	1,1	24	12	11,5	30	20
50-63	16	2,4	1,1	32	16	15,2	39	26
80-100	20	2,9	1,3	40	20	19	48	34

Ø	e	f	L	L1	n	r	W (gr.)	d
16	9	0,5	31	24	12	0,5	19	M6x1
20	12	0,5	42	32	16	0,5	47	M8x1,25
25-32	15	0,5	52	40	20	0,5	89	M10x1,25
40	18	0,5	62	48	24	0,5	153	M12x1,25
50-63	24	1	83	64	32	1	320	M16x1,5
80-100	30	1	105	80	40	1	680	M20x1,5

Ø 16 mm – Ø 100 mm SPHERICAL JOINT (SMS . . . AKS0000KG)



Ø 125 – Ø 160 – Ø 200 mm

Are specially designed

Please contact with the

sales department for the drawings.

ORDERING CODES

Ø 16 mm	SMS016AKSINOXKG
Ø 20 mm	SMS020AKSINOXKG
Ø 25 - 32 mm	SMS032AKSINOXKG
Ø 40 mm	SMS040AKSINOXKG
Ø 50 - 63 mm	SMS050AKSINOXKG
Ø 80 - 100 mm	SMS080AKSINOXKG

Self lubricating bearing heads servicing – free and conforming to DIN – K and ISO 8139 standards

Materials,

Body .. AISI 304 stainless steel

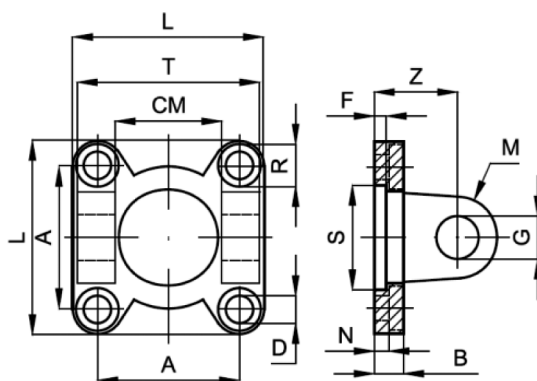
Sphere .. AISI 304 stainless steel

Ø	d	d ₃	B	C ₁	d ₁	d ₂	d ₄	d ₅	dk	h ₁
16	6	M6	9	6,75	8,9	20	10	13	12,700	30
20	8	M8	12	9	10,4	24	12,5	16	15,875	36
25-32	10	M10x1,25	14	10,5	12,9	28	15	19	19,050	43
40	12	M12x1,25	16	12	15,4	32	17,5	22	22,225	50
50-63	16	M16x1,5	21	15	19,3	42	22	27	28,575	64
80-100	20	M20x1,5	25	18	24,3	50	27,5	34	34,925	77

Ø	L ₃	L ₄	L ₅	L ₇	W	load (daN)	a °
16	12	40	5	11	11	700	13
20	16	48	5	13	14	1200	14
25-32	20	57	6,5	15	17	1400	13
40	22	66	6,5	17	19	1900	13
50-63	28	85	8	23	22	4800	15
80-100	33	102	10	27	30	5200	14

ATTACHMENTS (REAR) (STAINLESS STEEL)

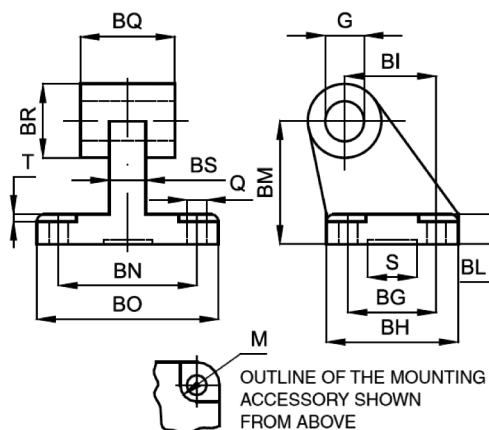
Ø 32 mm – Ø 100 mm FEMALE HINGE (SMS . . . AKSINOXEB)



Ø 125 – Ø 160 – Ø 200 mm
Are specially designed
Please contact with the
sales department for the drawings.

Ø	A	L	D	R	N	B	S	F	Z	G	M	CM	T
32	32,5	45	6,6	11	5,5	10	30	5	22	10	10	26	45
40	38	55	6,6	11	5,5	10	35	5	25	12	12	28	52
50	46,5	65	9	15	6,5	10	40	5	27	12	12	32	60
63	56,5	75	9	15	6,5	12	45	5	32	16	16	40	70
80	72	95	11	18	10	14	45	...	36	16	16	50	90
100	89	115	11	18	10	16	55	...	41	20	20	60	110

Ø 32 mm – Ø 100 mm MALE HINGE (SMS . . . AKSINOXYB)



Ø 125 – Ø 160 – Ø 200 mm
Are specially designed
Please contact with the
sales department for the drawings.

Ø	Q	M	BG	BH	BI	BL	BM	BN	BO	BS	BR	BQ	G	T	S
32	6,6	11	18	31	21	8	32	38	51	10	20	26	10	1,6	20
40	6,6	11	22	35	24	10	36	41	54	10	22	28	12	1,6	20
50	9	15	30	45	33	12	45	50	65	14	26	32	12	1,6	20
63	9	15	35	50	37	12	50	52	67	14	30	40	16	1,6	20
80	11	18	40	60	47	14	63	66	86	18	30	50	16	2,5	20
100	11	18	50	70	55	15	71	76	96	20	36	60	20	2,5	20

Reed type / Electronic type SENSORS



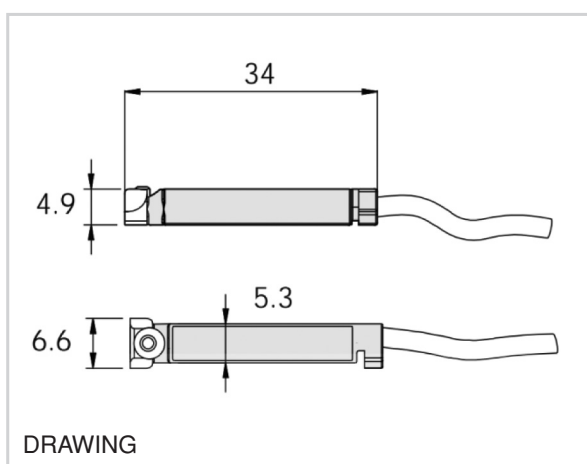
With its perfect shape the new series of SEMAKMATIC proximity sensors fit the slot of the aluminium profile perfectly. Precise sensing capability of the sensors are suitable for high speed cylinder movements.

There are two different versions. One of them is 2 wire n.o. and the other is 3 wire PNP n.o.

The 2 wire version can be used between 5 to 130 volt ac and dc

The 3 wire version is suitable for PNP 24 V dc.

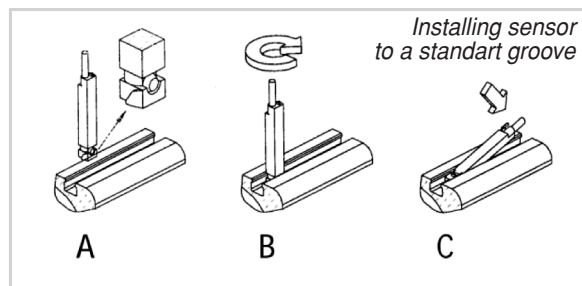
Standard cable length is 2 meters.



ORDERING CODES

ordering code for 2 wire sensor (n.o.) : SMSS5V0230ACDC0

ordering code for 3 wire PNP sensor (n.o.) : SMSS5V030PNPDC0



Description : Reed / Electronic type position detectors

Suitable for the grooves of all type **SEMAKMATIC** serie cylinders.

Conductors : 2 wire / 3 wire

Temperature range : - 10 °C / + 50 °C

Cable diameter : 2,7 mm

Specifications

Housing color : Black

Material : Pa 6

Led color : Yellow

Protection class : IP 67

Fixing screw : M3 hexagonal headless M3 screw

Rated voltages : For 2 wire 5 – 130 V AC / DC 3V voltage drop

For 3 wire 0 – 30 V DC 0,7V voltage drop (PNP)

Current max. / Power max. : For 2 wire 200 mA / 6 W ... For 3 wire 200 mA / 4 W

SENSOR BRACKETS for ISO 6432



The brackets for ISO 6432 serie cylinders are suitable only for **SEMAKMATIC** serie of reed sensors.

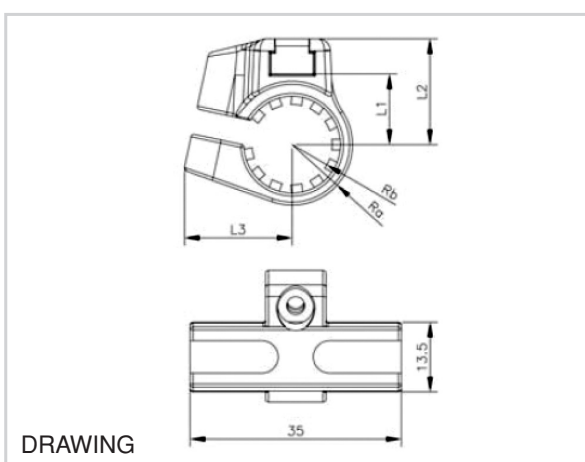
The material is Pa 6.

Fixing screw has hexagonal head. (2,5 mm allen key)

Brackets can be used for any suitable inox micro cylinders.



Brackets can be used only with **SEMAKMATIC** serie sensors.



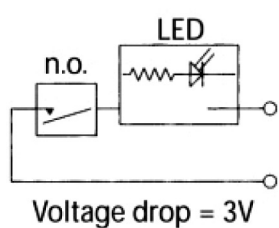
ORDERING CODES

ordering code for Ø 16 mm : SMSSKELEPCE0160

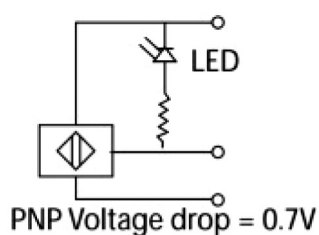
ordering code for Ø 20 mm : SMSSKELEPCE0200

ordering code for Ø 25 mm : SMSSKELEPCE0250

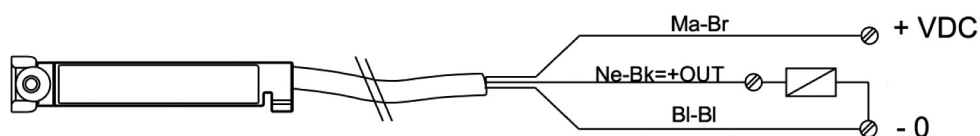
	L1	L2	L3	Rb	Ra
Ø 16 mm	13	18,5	20,5	8,7	12
Ø 20 mm	15	20,5	21,5	10,5	14
Ø 25 mm	17	23	22,5	13,5	16,5



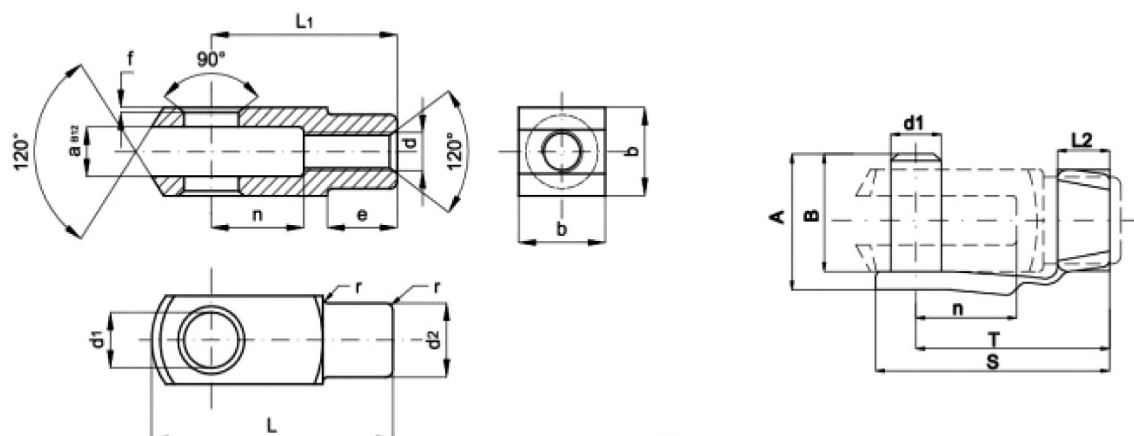
2 conductors N.O. (reed)



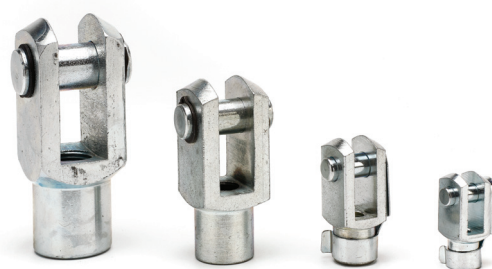
3 conductors PNP N.O. (magneto - resistive)



Ø 12 mm – Ø 320 mm CLEVIS fork) ISO (SMS . . . AKS0000CB)

**ORDERING CODES**

Ø 12 - 16 mm	SMS016AKS0000CB
Ø 20 mm	SMS020AKS0000CB
Ø 25 - 32 mm	SMS032AKS0000CB
Ø 40 mm	SMS040AKS0000CB
Ø 50 - 63 mm	SMS050AKS0000CB
Ø 80 - 100 mm	SMS080AKS0000CB
Ø 125 mm	SMS125AKS0000CB
Ø 160 - 200 mm	SMS160AKS0000CB
Ø 250 mm	SMS250AKS0000CB
Ø 320 mm	SMS320AKS0000CB



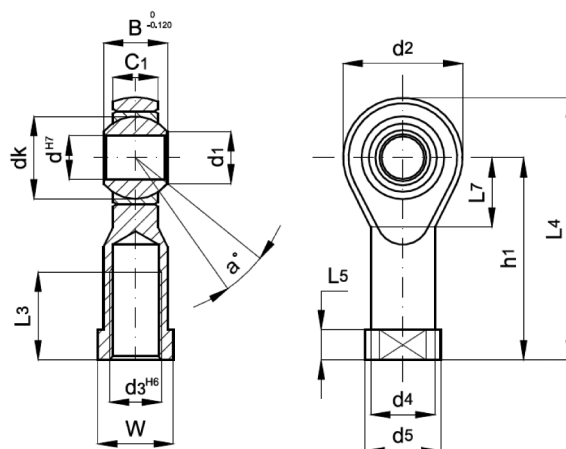
Clevis (fork) conforms to ISO 8140 standards.
In standart version, compleated with clips.
(M27*2 and M36*2 are normally provided with a pin and a seagers)

Material,
Body .. Zinc / nickel plated steel

Ø	d	a	A	S	B	b	d1	T	L2	d2	e	f	L	L1	n	r	W (gr.)
10	M4x0,7	4	11	19	9	8	4	15	5	8	6	0,5	21	16	8	0,5	7
12 16	M6x1	6	16	28	14	12	6	23	6	10	9	0,5	31	24	12	0,5	19
20	M8x1,25	8	22	37	19	16	8	31	8	14	12	0,5	42	32	16	0,5	47
25-32	M10x1,25	10	26	46	23	20	10	39	10	18	15	0,5	52	40	20	0,5	89
40	M12x1,25	12	32	55	28	24	12	47	12	20	18	0,5	62	48	24	0,5	153
50-63	M16x1,5	16	40	72	36	32	16	62	14	26	24	1	83	64	32	1	320
80-100	M20x1,5	20	48	88	44	40	20	72	16	34	30	1	105	80	40	1	680
125	M27x2	30	...	...	...	55	30	...	...	48	38	1	148	110	54	1	...
160-200	M36x2	35	...	...	...	70	35	...	...	60	40	1	188	144	72	1	...
250	M42x2	40	104,3	...	...	85	40	...	...	70	63,5	1	232	168	84	5	...
320	M48x2	50	117,3	...	...	96	50	...	...	82	73	1	265	192	96	5	...

ATTACHMENTS (FRONT)

Ø 12 mm – Ø 320 mm SPHERICAL JOINT (SMS . . . AKS0000KG)



ORDERING CODES

Ø 12 - 16 mm	SMS016AKS0000KG
Ø 20 mm	SMS020AKS0000KG
Ø 25 - 32 mm	SMS032AKS0000KG
Ø 40 mm	SMS040AKS0000KG
Ø 50 - 63 mm	SMS050AKS0000KG
Ø 80 - 100 mm	SMS080AKS0000KG
Ø 125 mm	SMS125AKS0000KG
Ø 160 - 200 mm	SMS160AKS0000KG
Ø 250 mm	SMS250AKS0000KG
Ø 320 mm	SMS320AKS0000KG

Self lubricating bearing heads are service – free and conforms to DIN – K and ISO 8139 standarts.
The bearing head is mounted on to the cylinder rod.

Temperature range is – 20 °C / + 80 °C.

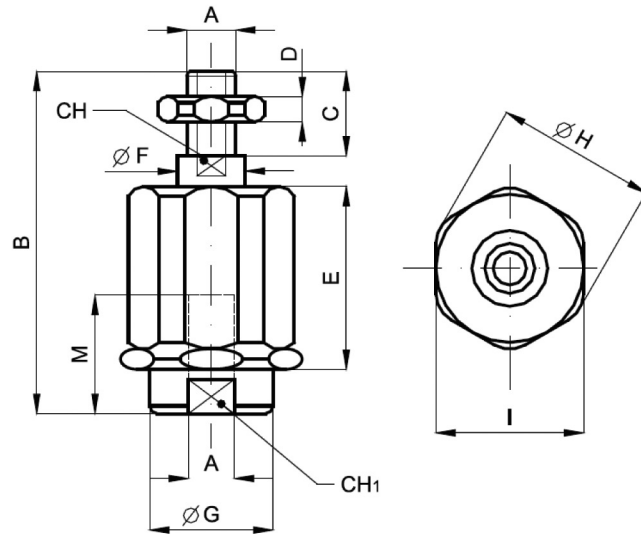
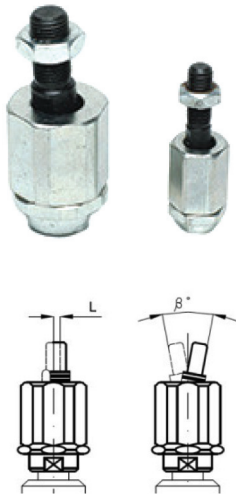
Materials,

Body .. Zinc / nickel plated steel

Sphere .. Hardened ground polished steel

External ring .. Self lubricating brass / PTFE

Ø	d	B	C1	d1	d2	d4	d5	dk	h1	L3	L4	L5	L7	W	α °	load (daN)	W (gr.)	d3
12 - 16	6	9	6,7	8,9	20	10	13	12,7	30	12	40	5	11	11	13	700	26	M6
20	8	12	9	10,4	24	12,50	16	15,9	36	16	48	5	13	14	14	1200	46	M8
25 - 32	10	14	10,5	12,9	28	15	19	19,1	43	20	57	6,5	15	17	13	1400	75	M10x1,25
40	12	16	12	15,4	32	17,50	22	22,2	50	22	66	6,5	17	19	13	1900	112	M12x1,25
50 - 63	16	21	15	19,3	42	22	27	28,6	64	28	85	8	23	22	15	4800	220	M16x1,5
80 - 100	20	25	18	24,3	50	27,50	34	34,9	77	33	102	10	27	30	14	5200	406	M20x1,5
125	30	37	25	34,8	70	40	50	50,8	110	51	145	15	36	41	17	10800	1120	M27x2
160-200	35	43	28	37,7	80	46	58	57,2	125	56	165	17	41	50	19	12400	1595	M36x2
250	40	49	33	45,2	91	53	65	66,7	142	60	187,5	19	45	55	17	...	...	M42x2
320	50	60	45	56,6	117	65	75	82,5	160	65	218,5	23	58	65	12	...	...	M48x2

Ø 10 mm – Ø 320 mm ARTICULATED JOINT (SMS . . . AKS0000KA)

Axial self – aligned articulated couplings mounted on to the cylinder rod.

The product fits for applications with high tractions and allow to compansate the angular and parallel Misalignments.

They are provided with hegzagonal nut in the standart version.

Material : Zinc plated steel

ORDERING CODES

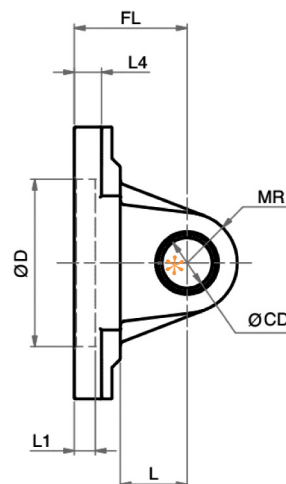
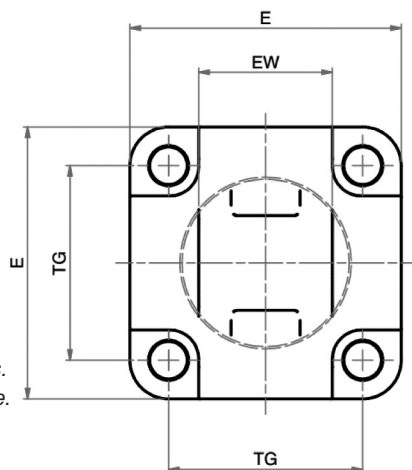
Ø 12 - 16 mm	SMS016AKS0000KA
Ø 20 mm	SMS020AKS0000KA
Ø 25 - 32 mm	SMS032AKS0000KA
Ø 40 mm	SMS040AKS0000KA
Ø 50 - 63 mm	SMS050AKS0000KA
Ø 80 - 100 mm	SMS080AKS0000KA
Ø 125 mm	SMS125AKS0000KA

Ø	A	B	C	D	E	F	G	H	I	L	M	CH	β °	CH1	load (N)	W (gr.)
12 - 16	M6x1	39	12	3,2	17,5	6	8,5	14,5	13	1	10	5	10	7	1200	23
20	M8x1,25	55	16	4	24,5	8	12,5	19	17	2	20	7	10	10	2500	60
25 - 32	M10x1,25	73	20	5	34	14	21	32	30	2	20	12	10	19	5000	230
40	M12x1,25	77	24	6	34	14	21	32	30	2	20	12	10	19	5000	230
50 - 63	M16x1,5	108	32	8	54	22	33,5	45	41	2	32	19	10	30	10000	650
80 - 100	M20x1,5	122	40	9	54	22	33,5	45	41	2	40	19	10	30	10000	710
125	M27x2	147	54	13,5	71	...	59	60	55	...	40	24	...	32	...	1600

ATTACHMENTS (REAR) (suitable for ISO 15552 & 21287)

Ø 32 mm – Ø 200 mm FEMALE HINGE (SMS . . . AKS0000EB)

ALUMINIUM

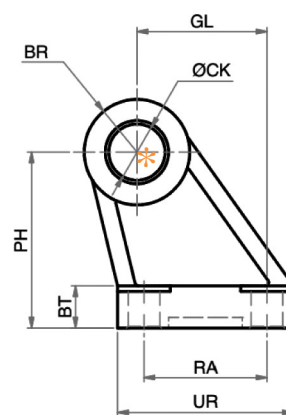
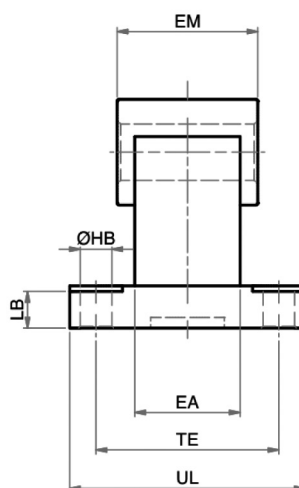


- * Supplied with 4 screws, rod and 2 seagers.
- * Special bushing integrated in to the rod hole.

Ø	E	UB	CB	TG	FL	L1	L	L4	ø D	ø CD	MR
32	45	45	26	32,5	22	5	13	5,5	30	10	10
40	52	52	28	38	25	5	16	5,5	35	12	12
50	65	60	32	46,5	27	5	16	6,5	40	12	12
63	75	70	40	56,5	32	5	21	6,5	45	16	16
80	93	90	50	72	36	5	22	10	45	16	16
100	110	110	60	89	41	5	27	10	55	20	20
125	134	130	70	110	50	7	30	10	60	25	25
160	160	170	90	140	55	7	35	10	65	30	25
200	220	170	90	175	60	7	35	11	75	30	25

Ø 32 mm – Ø 200 mm MALE HINGE (SMS . . . AKS0000YB)

ALUMINIUM

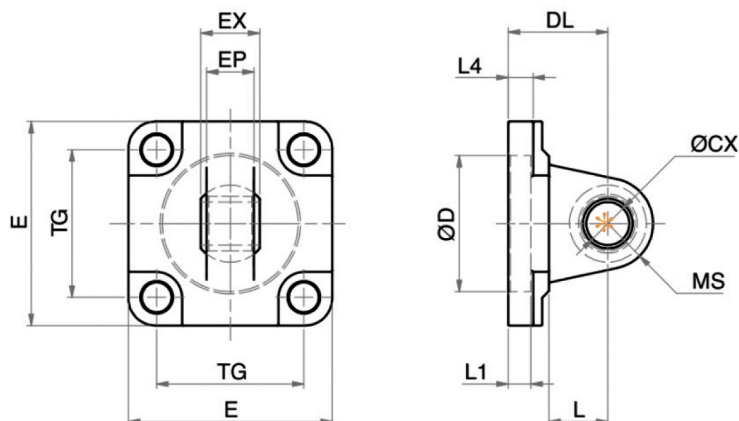


- * Supplied with 4 screws
- * Special bushing integrated in to the rod hole.

Ø	TG	ø CX	DL	L	EX	EP	L4	ø D	L1	E	MS
32	32,5	10	22	12	14	10,5	5,5	30	7	45	16
40	38	12	25	15	16	12	5,5	35	7	52	18
50	46,5	16	27	15	21	15	6,5	40	7	65	21
63	56,5	16	32	20	21	15	6,5	45	7	75	23
80	72	20	36	20	25	18	10	45	9	95	28
100	89	20	41	25	25	18	10	55	9	115	30
125	110	30	50	30	37	25	10	60	9	140	40
160	140	35	55	35	43	30	10	65	7	195	44
200	175	35	60	35	43	30	11	75	7	238	47

ALUMINIUM

Ø 32 mm – Ø 200 mm SWIVEL FLANGE with bearing (SMS . . . AKS000REB)

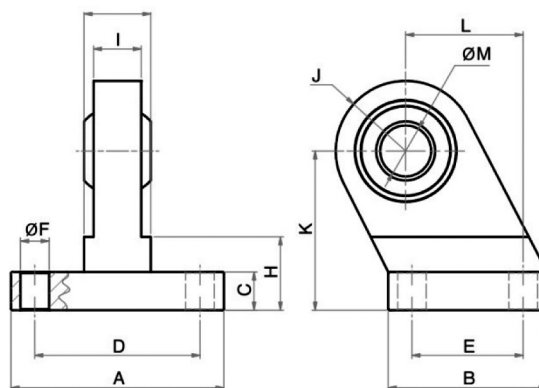


- * Supplied with 4 screws.
 * Standart of the bearing is DIN 648 K.

Ø	TG	ØCX	DL	L	EX	EP	L4	ØD	L1	E	MS
32	32,5	10	22	12	14	10,5	5,5	30	7	45	16
40	38	12	25	15	16	12	5,5	35	7	52	18
50	46,5	16	27	15	21	15	6,5	40	7	65	21
63	56,5	16	32	20	21	15	6,5	45	7	75	23
80	72	20	36	20	25	18	10	45	9	95	28
100	89	20	41	25	25	18	10	55	9	115	30
125	110	30	50	30	37	25	10	60	9	140	40
160	140	35	55	35	43	30	10	65	7	195	44
200	175	35	60	35	43	30	11	75	7	238	47

STEEL

Ø 32 mm – Ø 100 mm SWIVEL MALE HINGE with bearing (SMS . . . AKS000RYB)



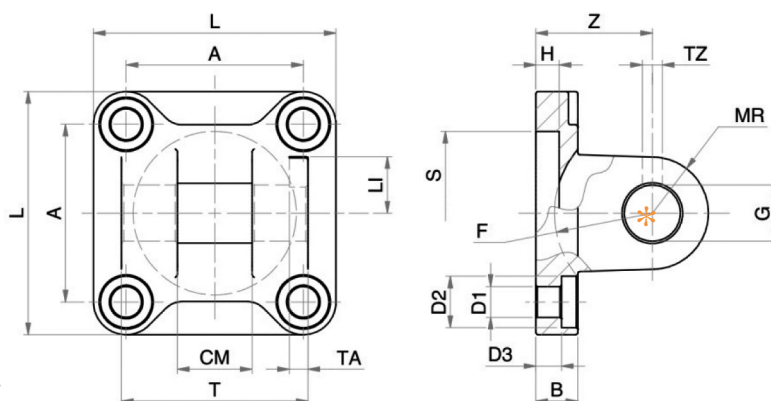
- * Supplied with 4 screws.
 * Standart of the bearing is DIN 648 K.

Ø	A	B	C	D ±0,2	E ±0,2	ØF	G	H	I	J	K JS15	L JS14	ØM
32	51	31	10	38	18	6,6	14	16	10,5	15	32	21	10
40	54	35	10	41	22	6,6	16	16	12	17	36	24	12
50	65	45	12	50	30	9	21	21	15	20	45	33	16
63	67	50	12	52	35	9	21	23	15	22	50	37	16
80	86	60	14	66	40	11	25	32	18	27	63	47	20
100	96	70	15	76	50	11	25	33	18	29	71	55	20

ATTACHMENTS (REAR) (suitable for ISO 15552 & 21287)

Ø 32 mm – Ø 200 mm FEMALE HINGE mod . 1 (SMS . . . AKS001REB)

ALUMINIUM



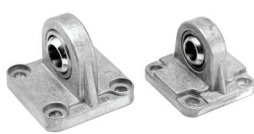
- * Supplied with 4 screws, rod and 2 seagers.
* Special bushing integrated in to the rod hole.

Ø MM	L	T	CM	A	Z	H	B	D3	S	G	MR	D1	D2	TA	TZ	LI
32	45	34	14	32,5	22	5	9	5,5	30	10	10	6,6	11	3	3,3	11,5
40	52	40	16	38	25	5	9	5,5	35	12	12	6,6	11	4	4,3	12
50	65	45	21	46,5	27	5	1	6,5	40	16	14	9	15	4	4,3	14
63	75	51	21	56,5	32	5	1	6,5	45	16	18	9	15	4	4,3	14
80	95	65	25	72	36	5	14	10	45	20	20	11	18	4	4,3	16
100	115	75	25	89	41	5	14	10	55	20	22	11	18	4	6,3	16
125	140	97	37	110	50	7	20	10	60	30	25	14	20	6	6,3	24
160	180	122	43	140	55	7	20	10	65	35	30	18	26	6	6,3	26,5
200	220	122	43	175	60	7	25	11	75	35	30	18	26	6	6,3	26,5

How to use MOD 1 serie FEMALE HINGE



Supplied with special rod, seagers and screws



Supplied with screws

Suitable for ISO 15552 & ISO 21287 serie cylinders

**Dia . for 032 – 040 – 050 – 063 – 080
100 – 125 – 160 – 200 mm**



Supplied with special rod, seagers and screws



Supplied with screws

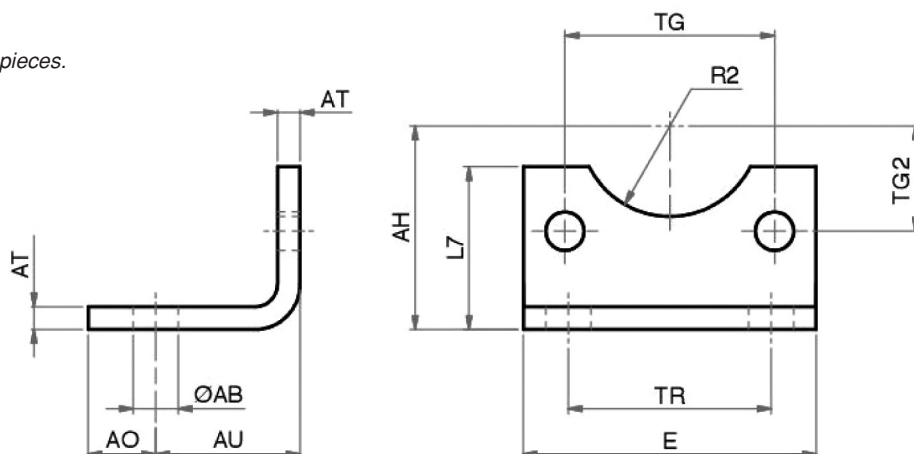
Suitable for ISO 15552 & ISO 21287 serie cylinders

Dia . for 032 – 040 – 050 – 063 – 080 - 100 mm

ALUMINIUM

Ø 32 mm – Ø 200 mm FOOT MOUNTING (SMS . . . AKS0000AB)

• Supplied with 4 screws and 2 pieces.

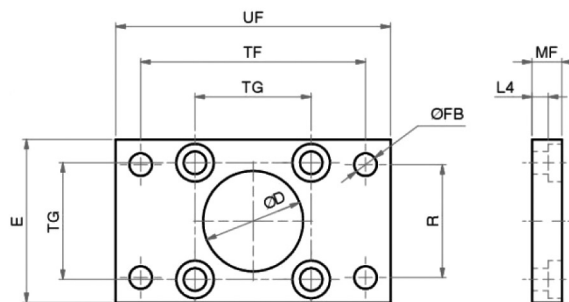


Ø	TG	TG2	AH	R2	Ø AB	AO	AU	TR	AT	L7	E
32	32,5	16,25	32	15	7	11	24	32	4	30	45
40	38	19	36	17,5	10	8	28	36	4	30	52
50	46,5	23,25	45	20	10	15	32	45	5	36	65
63	56,5	28,25	50	22,5	10	13	32	50	5	35	75
80	72	36	63	22,5	12	14	41	63	6	47	95
100	89	44,5	71	27,5	14,5	16	41	75	6	53	115
125	110	55	90	30	16,5	25	45	90	8	70	140
160	140	70	115	32,5	18,5	15	60	115	10	100	180
200	175	87,5	135	37,5	24	30	70	135	12	109	220

ALUMINIUM

Ø 32 mm – Ø 200 mm FLANGE (SMS . . . AKS0000FB)

• Supplied with 4 screws and 1 piece.



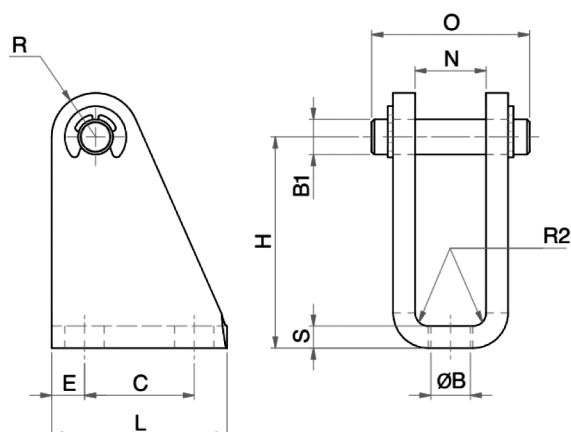
Ø	TG	Ø D	Ø FB	R	TF	L4	UF
32	32,5	30	7	32	64	5	80
40	38	35	9	36	72	5	90
50	46,5	40	9	45	90	6,5	110
63	56,5	45	9	50	100	6,5	120
80	72	45	12	63	126	9	150
100	89	55	14	75	150	9	170
125	110	60	16	90	180	10,5	205
160	140	65	18	115	230	9,5	260
200	175	75	22	135	270	12,5	300

Please contact with the sales department, for all the attachments serie of the cylinder Ø 250 and Ø 320 mm.

ATTACHMENTS (REAR) (suitable for ISO 6432)

Ø 12 / 16 . 20 / 25 mm FEMALE HINGE (SMS . . . AKS0000EB)

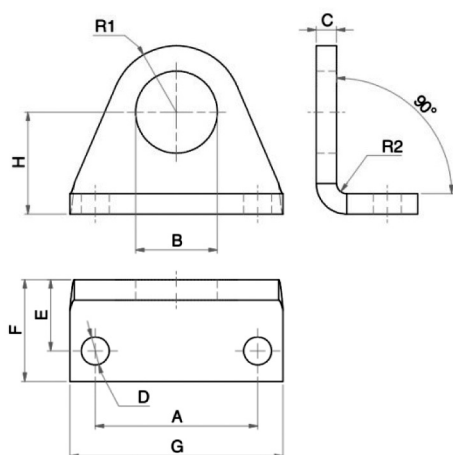
STEEL



Ø	12 / 16	20 / 25
L	25	32
H	27	30
B1	6	8
S	3	4
E	5	6
C	15	20
N	12,1	16,1
B	5,5	6,6
O	24	31
R	7	10
R2	1,5	2

Ø 12 / 16 . 20 / 25 mm FOOT MOUNTING (SMS . . . AKS0000YB)

STEEL

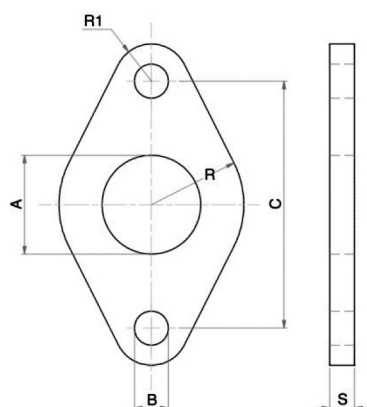


• Supplied 2 pieces.

Ø	12 / 16	20 / 25
A	32	40
B	16,1	22,1
C	4	5
D	5,5	6,6
E	14	17
F	20	25
G	42	54
H	20	25
R1	13	20
R2	2	2,5

Ø 12 / 16 . 20 / 25 mm FOOT MOUNTING (SMS . . . AKS0000AB)

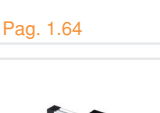
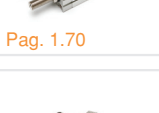
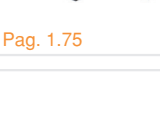
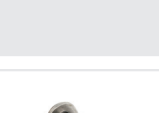
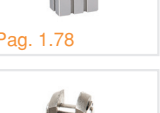
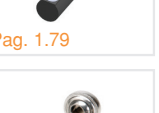
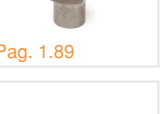
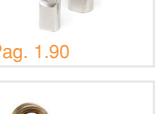
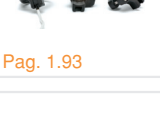
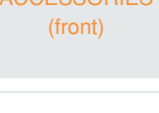
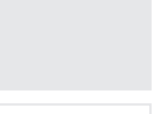
STEEL



• Supplied 1 piece.

Ø mm	12 / 16	20 / 25
A	16	22
B	5,5	6,5
C	40	50
R	15	20
R1	6	8
S	4	5

SUMMARY of THE ACTUATORS

ISO 15552 SERIE	 Pag. 1.1	 Pag. 1.3	 Pag. 1.3	 Pag. 1.3	 Pag. 1.4	 Pag. 1.7
ISO 6432 SERIE	 Pag. 1.8	 Pag. 1.10	 Pag. 1.11	RODLESS CYLINDERS	 Pag. 1.12	 Pag. 1.13
SHORT STROKE SERIE	 Pag. 1.18	 Pag. 1.21	 Pag. 1.23	 Pag. 1.24	 Pag. 1.26	 Pag. 1.27
COMPACT SERIE	 Pag. 1.31	 Pag. 1.35	 Pag. 1.39	 Pag. 1.43	TYPE 3 SENSOR	 Pag. 1.47
HYDRO PNEUMATIC UNITS	 Pag. 1.51	 Pag. 1.52	 Pag. 1.53	ISO GUIDING UNITS	 Pag. 1.56	 Pag. 1.59
ISO ROD LOCK	 Pag. 1.62	 Pag. 1.64	BOOSTER	 Pag. 1.65	CARTRIDGE CYLINDERS	 Pag. 1.68
ROTARY ACTUATORS	 Pag. 1.70	 Pag. 1.75	GRIPPERS	 Pag. 1.78	TYPE 1 SENSOR	 Pag. 1.82
STAINLESS CYLINDERS & ATTACHMENTS	 Pag. 1.85	 Pag. 1.87	 Pag. 1.87	 Pag. 1.89	 Pag. 1.90	 Pag. 1.91
PROXIMITY SWITCHES	STANDART SENSORS	 Pag. 1.93	ISO CYLINDER ACCESSORIES (front)	 Pag. 1.94	 Pag. 1.95	 Pag. 1.96
ISO CYLINDER ACCESSORIES (rear)	 Pag. 1.97	 Pag. 1.97	 Pag. 1.98	 Pag. 1.98	 Pag. 1.99	
ISO CYLINDER ACCESSORIES (front & rear)	 Pag. 1.100	 Pag. 1.100	ISO CYLINDER ACCESSORIES (for iso 6432)	 Pag. 1.101	 Pag. 1.101	 Pag. 1.101

Certificate of Registration



This is to certify that the Quality Management System of
SEMAKMATİK San. ve Tic. Ltd. Şti.

Yedpa Tic. Merkezi B Cad. No 65 /- 66 Kayışdağı, Ümraniye, İstanbul, Turkey

applicable to

Sales and installation of pneumatic equipments

has been assessed and registered by NQA against the provisions of

BS EN ISO 9001 : 2008

This registration is subject to the company maintaining a quality management system,
to the above standard, which will be monitored by NQA

Atilla Kocak

Certification Director



Certificate No:
Date:
Valid Until:
EAC code:

39272
20 September 2013
20 September 2016
18/29

The use of the UKAS Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 015 held NQA.
NQA is a trading division of Alcamra Group Ltd. Registration No. 02513162. Registered Office: Warwick House, Houghton Hall Park, Houghton Regis, Dunstable, Bedfordshire, LU5 5ZX.
This certificate is the property of NQA and must be returned on request.

SEMAKMATİK LTD. ŞTİ.

ISO 9001

CERTIFIED COMPANY



CYLINDERS



VALVES



FRL



SEMAKMATIC
PNEUMATIC EQUIPMENTS



FITTINGS



VACUUM



INOX

SEMAKMATİK

SAN. TİC. LTD. ŞTİ.

DARÜLACEZE CAD. PERPA TİC. MERKEZİ
B BLOK KAT 11 No. 1639 OKMEYDANI / İSTANBUL
TURKEY

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MART 2015 / MARCH 2015