

MINICILINDRI ISO 6432

ISO 6432 MINICYLINDERS



TESTATE COVERS	ALLUMINIO ANODIZZATO ANODIZED ALUMINIUM
TUBO TUBE	ACCIAIO INOX AISI 304 AISI 304 STAINLESS STEEL
PISTONE PISTON	OTTONE BRASS
GUARNIZIONI SEALS	Ø 8-10-12 POLIURETANO + NBR Ø 8-10-12 POLYURETHANE + NBR Ø 16-20-25 POLIURETANO Ø 16-20-25 POLYURETHANE
BRONZINA BUSH	BRONZO SINTERIZZATO SINTERED BRONZE
ASTA PISTON ROD	ACCIAIO INOX AISI 303 AISI 303 STAINLESS STEEL

PRESSIONE DI FUNZIONAMENTO WORKING PRESSURE	TEMPERATURA DI IMPIEGO TEMPERATURE	FLUIDO WORKING FLUID
MAX 10 BAR	Ø 8-10-12 -20°C +80°C CON ARIA SECCA -20°C +80°C WITH DRY AIR Ø 16-20-25 -35°C +80°C CON ARIA SECCA -35°C +80°C WITH DRY AIR	ARIA COMPRESSA FILTRATA E LUBRIFICATA E NON FILTERED AND LUBRICATED OR NOT COMPRESSED AIR

VERSIONI DISPONIBILI AVAILABLE VERSIONS

CSE - CSEM - CSET - CSEMT - CDE - CDEM - CDEP - CDEMP - CDEA - CDEMA - CDEAP - CDEMAP

CORSE STANDARD STANDARD STROKES

Ø mm	10	25	40	50	80	100	125	160	200	250	300	320	400	500
8	☒	☒	☒	☒	☒	☒								
10	☒	☒	☒	☒	☒	☒								
12	☒	☒	☒	☒	☒	☒	☒	☒	☒					
16	☒	☒	☒	☒	☒	☒	☒	☒	☒					
20	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒		
25	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

DOPPIO EFFETTO
DOUBLE ACTING

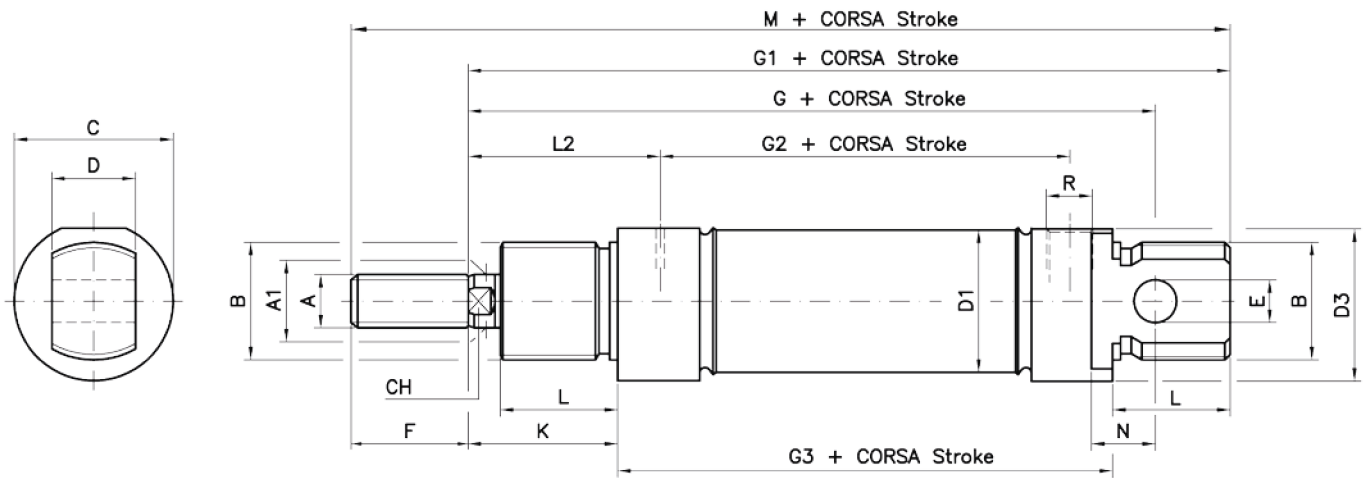
Ø mm	10	25	50
8	☒	☒	☒
10	☒	☒	☒
12	☒	☒	☒
16	☒	☒	☒
20	☒	☒	☒
25	☒	☒	☒

SEMPLICE EFFETTO
SINGLE ACTING

SEMPLICE EFFETTO Ø8-25

SINGLE ACTING Ø8-25

CSEØ/... CSEMØ/...



DIMENSIONI DIMENSIONS

Ø mm	A	A1	B	C	D	D1	D3	E	F	G	G1	G2	G3	K	L	L2	N	CH	R	M
8	M4	4	M12x1.25	16	8	9.27	15	4	12	64	74	36	46	16	12	21	6	/	M5	86
10	M4	4	M12x1.25	16	8	11.27	15	4	12	64	74	36	46	16	12	21	6	/	M5	86
12	M6	6	M16x1.5	19	12	13.27	18	6	16	75	88	38	48	22	18	27	9	5	M5	104
16	M6	6	M16x1.5	19	12	17.27	18	6	16	82	93	43	53	22	18	27	9	5	M5	109
20	M8	8	M22x1.5	27	16	21.27	25.5	8	20	95	111	51.5	67	24	20	32	12	7	1/8"G	131
25	M10x1.25	10	M22x1.5	30	16	26.5	28.5	8	22	104	118	52	68	28	22	36	12	9	1/8"G	140

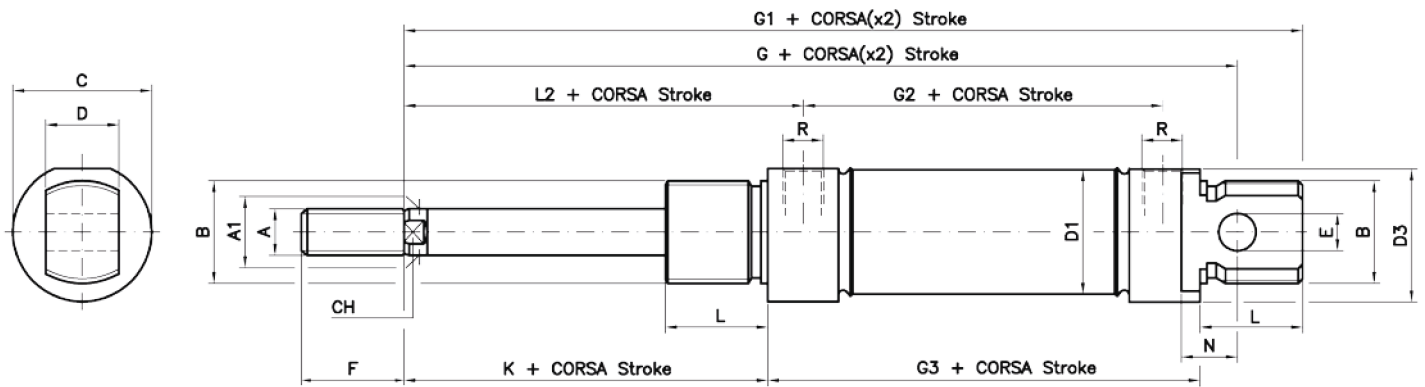
FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)					
		CORSA/STROKE 10		CORSA/STROKE 25		CORSA/STROKE 50	
		F1	F2	F1	F2	F1	F2
8	19	4.5	5.2	3.9	5.2	2.5	5.2
10	36	4.5	5.2	3.9	5.2	2.5	5.2
12	49	5.7	6	5.1	6	4.1	6
16	87.5	15	17.5	11.5	17.5	5.3	17.5
20	141.5	21.3	23.5	18	23.5	12.5	23.5
25	246.5	18.2	19.5	16.2	19.5	12.9	19.5

SEMPICE EFFETTO MOLLA POSTERIORE Ø8-25

SINGLE ACTING EXTENDED PISTON ROD Ø8-25

CSETØ/... CSEMTØ/...



DIMENSIONI DIMENSIONS

Ø mm	A	A1	B	C	D	D1	D3	E	F	G	G1	G2	G3	K	L	L2	N	CH	R
8	M4	4	M12x1.25	16	8	9.27	15	4	12	82	92	54	64	16	12	21	6	/	M5
10	M4	4	M12x1.25	16	8	11.27	15	4	12	89.5	99.5	61.5	71.5	16	12	21	6	/	M5
12	M6	6	M16x1.5	19	12	13.27	18	6	16	97.5	110.5	60.5	70.5	22	18	27	9	5	M5
16	M6	6	M16x1.5	19	12	17.27	18	6	16	111	122	73	82	22	18	27	9	5	M5
20	M8	8	M22x1.5	27	16	21.27	25.5	8	20	126.5	142.5	83	98.5	24	20	32	12	7	1/8" G
25	M10x1.25	10	M22x1.5	30	16	26.5	28.5	8	22	135.5	149.5	83.5	99.5	28	22	36	12	9	1/8" G

FORZE DI TRAZIONE E SPINTA (6 BAR)

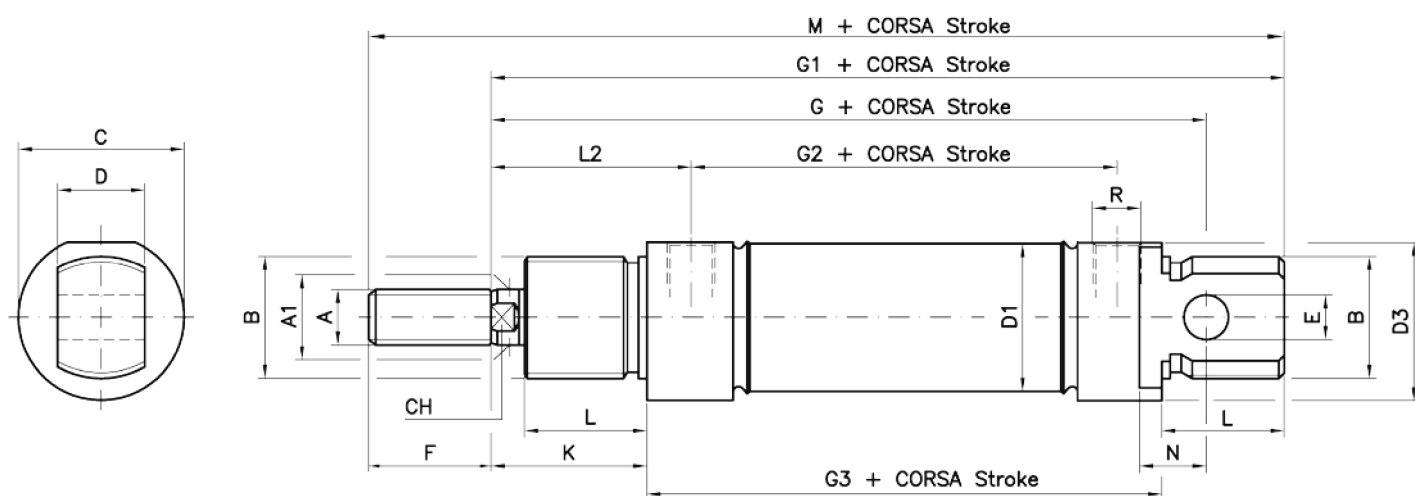
TRACTION AND THRUST FORCES (6 BAR)

Ø mm	FORZA DI TRAZIONE (N) TRACTION FORCE (N)	FORZA DI SPINTA (N) THRUST FORCE (N)					
		CORSA/STROKE 10		CORSA/STROKE 25		CORSA/STROKE 50	
		F1	F2	F1	F2	F1	F2
8	19.8	4.7	5.2	4.1	5.2	3	5.2
10	34.2	4.3	5.4	2.8	5.4	-	-
12	38.7	11.1	12.1	9.7	12.1	7.3	12.1
16	86	16.2	17.6	14	17.6	10.2	17.6
20	107.3	47.3	51	41.8	51	32.5	51
25	221.3	24.2	26	21.5	26	16.9	26

DOPPIO EFFETTO Ø8-25

DOUBLE ACTING Ø8-25

CDEØ/... CDEMØ/...



DIMENSIONI DIMENSIONS

Ø mm	A	A1	B	C	D	D1	D3	E	F	G	G1	G2	G3	K	L	L2	N	CH	R	M
8	M4	4	M12x1.25	16	8	9.27	15	4	12	64	74	36	46	16	12	21	6	/	M5	86
10	M4	4	M12x1.25	16	8	11.27	15	4	12	64	74	36	46	16	12	21	6	/	M5	86
12	M6	6	M16x1.5	19	12	13.27	18	6	16	75	88	38	48	22	18	27	9	5	M5	104
16	M6	6	M16x1.5	19	12	17.27	18	6	16	82	93	44	53	22	18	27	9	5	M5	109
20	M8	8	M22x1.5	27	16	21.27	25.5	8	20	95	111	51.5	67	24	20	32	12	7	1/8"G	131
25	M10x1.25	10	M22x1.5	30	16	26.5	28.5	8	22	104	118	52	68	28	22	36	12	9	1/8"G	140

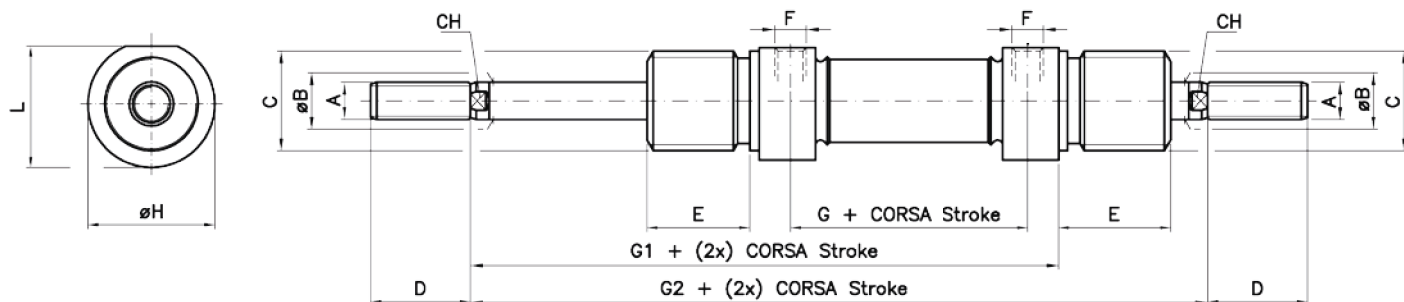
FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)
8	24	15
10	41	32
12	55	38
16	105	88
20	165	141
25	266	219

DOPPIO EFFETTO STELO PASSANTE Ø8-25

DOUBLE ACTING THROUGH PISTON ROD Ø8-25

CDEPØ/... CDEMPØ/...



Ø 8-10-12 non disponibili in versione magnetica
Ø 8-10-12 not available in magnetic version

DIMENSIONI DIMENSIONS

Ø mm	A	øB	C	D	E	F	G	G1	G2	øH	L	CH
8	M4	4	M12x1.25	12	12	M5	36	62	78	16	15	/
10	M4	4	M12x1.25	12	12	M5	36	62	78	16	15	/
12	M6	6	M16x1.5	16	18	M5	38	70	92	19	18	5
16	M6	6	M16x1.5	16	18	M5	44	75	97	19	18	5
20	M8	8	M22x1.5	20	20	1/8"G	51.5	91	115	27	25.5	7
25	M10x1.25	10	M22x1.5	22	22	1/8"G	52	96	124	30	28.5	9

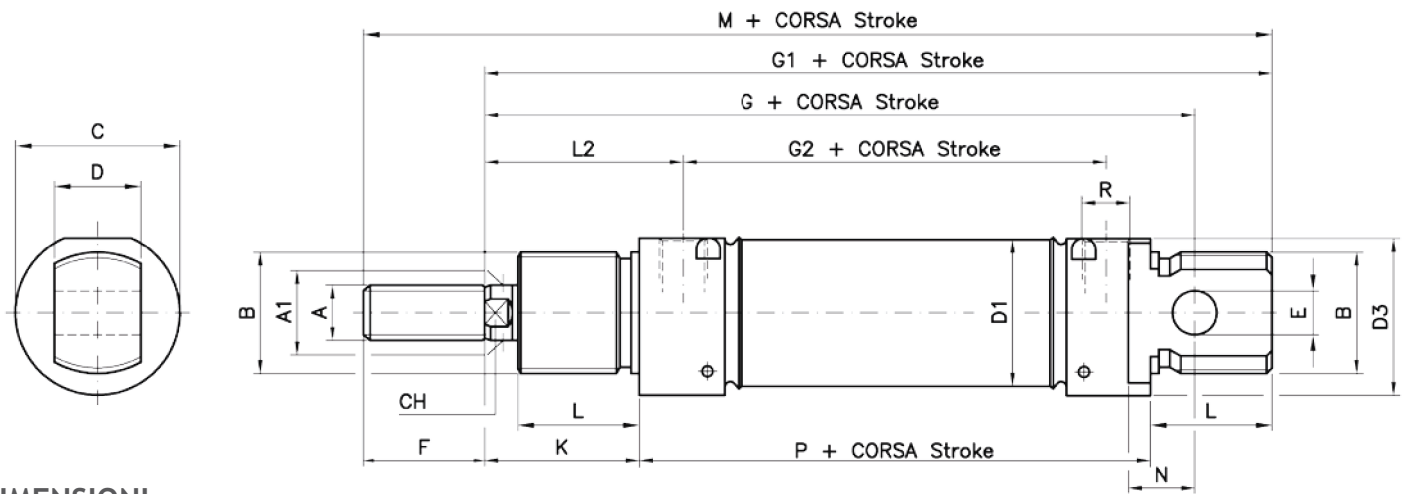
FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)
8	15	15
10	32	32
12	38	38
16	88	88
20	141	141
25	219	219

DOPPIO EFFETTO AMMORTIZZATO Ø16-25

DOUBLE ACTING CUSHIONED Ø16-25

CDEAØ/... CDEMAØ/...



DIMENSIONI DIMENSIONS

Ø mm	A	A1	B	C	D	D1	D3	E	F	G	G1	G2	K	L	L2	N	CH	R	P	M
16	M6	6	M16x1.5	21	12	17.27	20	6	16	82	93	44	21	17	26.5	9	5	M5	55	109
20	M8	8	M22x1.5	27	16	21.27	25.5	8	20	95	111	51	24	20	32	12	7	1/8"G	67	131
25	M10x1.25	10	M22x1.5	30	16	26.5	28.5	8	22	104	118	52	28	22	36	12	9	1/8"G	68	140

FORZE DI TRAZIONE E SPINTA (6 BAR)

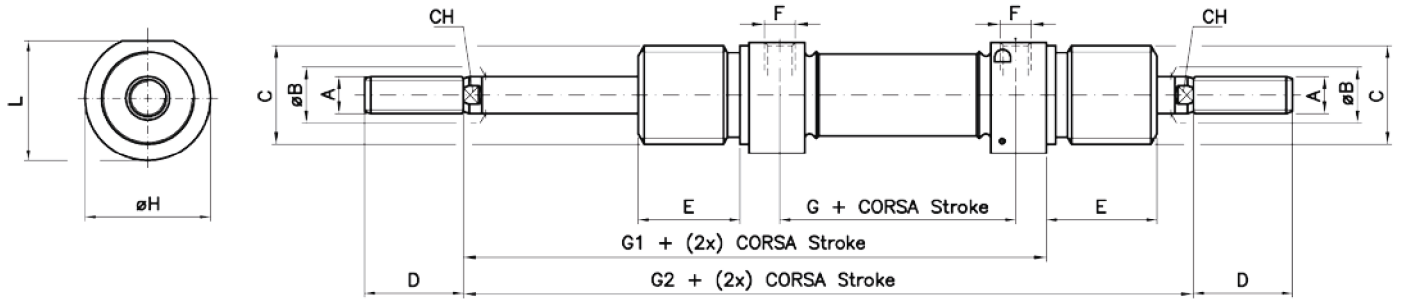
TRACTION AND THRUST FORCES (6 BAR)

Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)
16	105	88
20	165	141
25	266	219

DOPPIO EFFETTO AMMORTIZZATO STELO PASSANTE Ø16-25

DOUBLE ACTING CUSHIONED THROUGH PISTON ROD Ø16-25

CDEAPØ/... CDEMAPØ/...



DIMENSIONI DIMENSIONS

Ø mm	A	øB	C	D	E	F	G	G1	G2	øH	L	CH
16	M6	6	M16x1.5	16	18	M5	44	76	97	19	18	5
20	M8	8	M22x1.5	20	20	1/8"G	51.5	91	115	27	25.5	7
25	M10x1.25	10	M22x1.5	22	22	1/8"G	52	96	124	30	28.5	9

FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

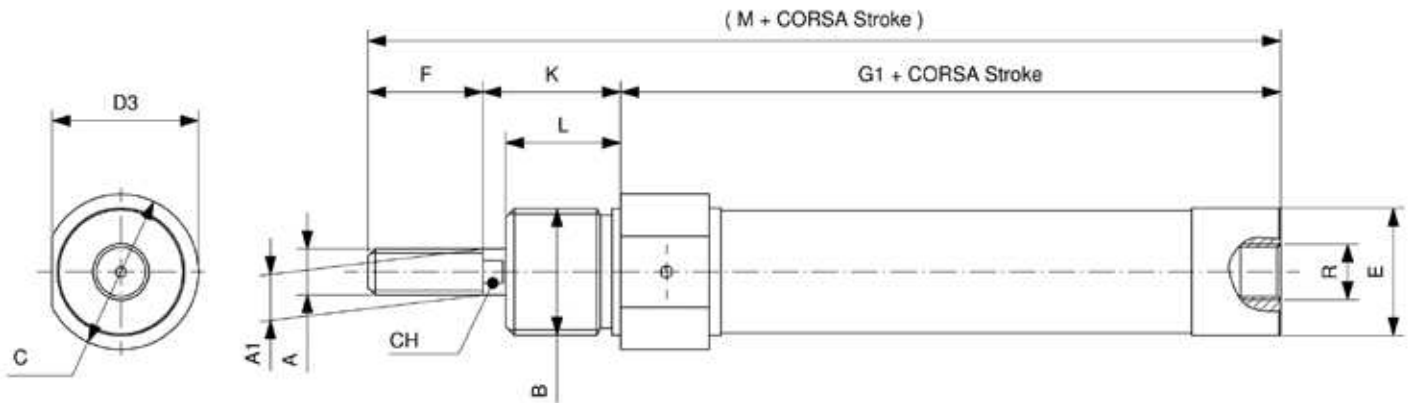
Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)
16	88	88
20	141	141
25	219	219

SERIE CORTA SEMPLICE EFFETTO Ø16-25

SHORT SERIE SINGLE ACTING Ø16-25

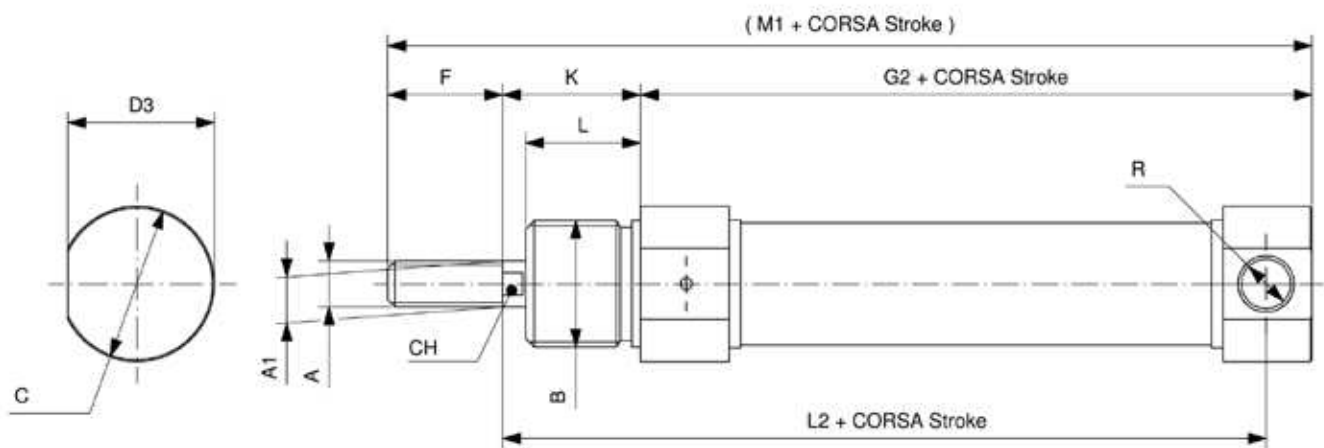
CSEØ/...RA

CSEMØ/...RA



CSEØ/...RR

CSEMØ/...RR



DIMENSIONI DIMENSIONS

Ø mm	A	A1	B	C	D3	E	F	G1	G2	K	L	L2	R	M	M1	CH
16	M6	6	M16x1.5	19	18	17.2	16	52	52.5	22	18	70	M5	90	90.5	5
20	M8	8	M22x1.5	27	25.5	22.2	20	65	67	24	20	83	1/8" G	109	111	7
25	M10x1.25	10	M22x1.5	30	28.5	27	22	66	68	28	22	88	1/8" G	116	118	9

FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

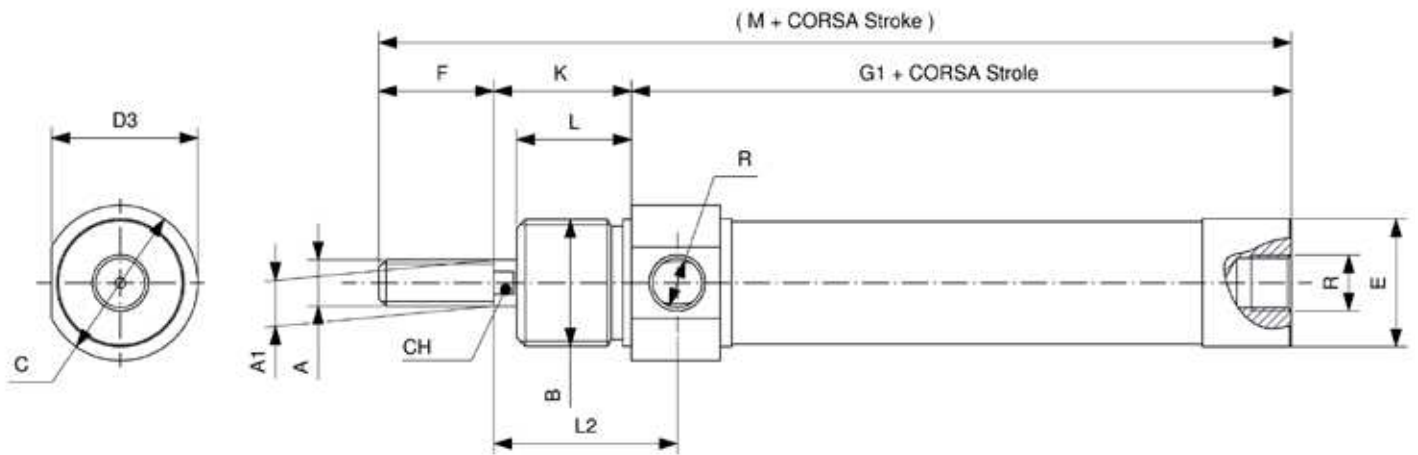
Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)					
		CORSA/STROKE 10		CORSA/STROKE 25		CORSA/STROKE 50	
		F1	F2	F1	F2	F1	F2
16	87.5	15	17.5	11.5	17.5	5.3	17.5
20	141.5	21.3	23.5	18	23.5	12.5	23.5
25	246.5	18.2	19.5	16.2	19.5	12.9	19.5

SERIE CORTA DOPPIO EFFETTO Ø16-25

SHORT SERIE DOUBLE ACTING Ø16-25

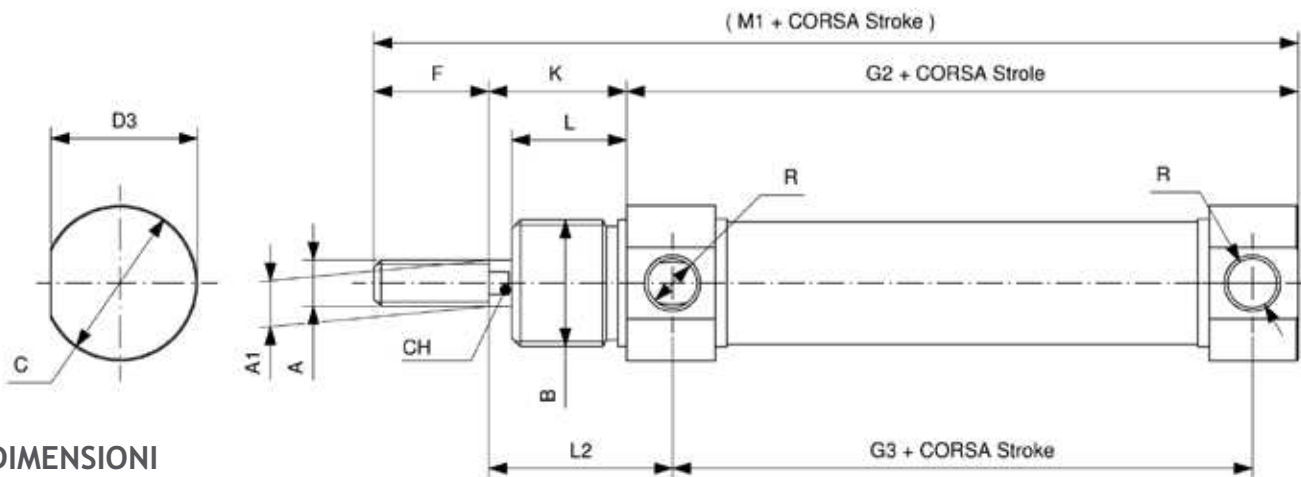
CDEØ/...RA

CDEMØ/...RA



CDEØ/...RR

CDEMØ/...RR



DIMENSIONI DIMENSIONS

Ø mm	A	A1	B	C	D3	E	F	G1	G2	G3	K	L	L2	R	M	M1	CH
16	M6	6	M16x1.5	19	18	17.2	16	52	52.5	43.5	22	18	26.5	M5	90	90.5	5
20	M8	8	M22x1.5	27	25.5	22.2	20	65	67	51	24	20	32	1/8"G	109	111	7
25	M10x1.25	10	M22x1.5	30	28.5	27	22	66	68	52	28	22	36	1/8"G	116	118	9

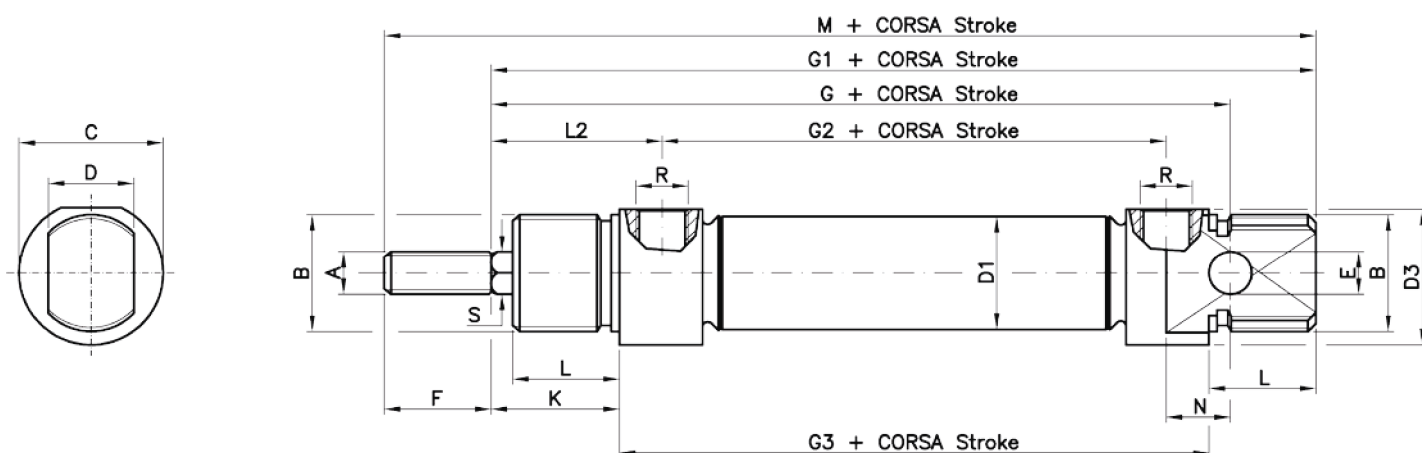
FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)
16	105	88
20	165	141
25	266	219

MINICILINDRI ISO 6432 ANTIROTAZIONE Ø16-25

NON ROTATING ISO 6432 MINICYLINDERS Ø16-25

CDEØ/...ES CDEMØ/...ES

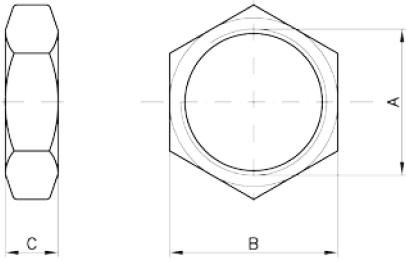


DIMENSIONI DIMENSIONS

Ø mm	A	S	B	C	D	D1	D3	E	F	G	G1	G2	G3	K	L	L2	N	R	M
16	M6	6	M16x1.5	19	12	17.27	18	6	16	82	93	44	53	22	18	27	9	M5	109
20	M8	8	M22x1.5	27	16	21.27	25.5	8	20	95	111	51.5	67	24	20	32	12	1/8"G	131
25	M10x1.25	10	M22x1.5	30	16	26.5	28.5	8	22	104	118	52	68	28	22	36	12	1/8"G	140

FORZE DI TRAZIONE E SPINTA (6 BAR) TRACTION AND THRUST FORCES (6 BAR)

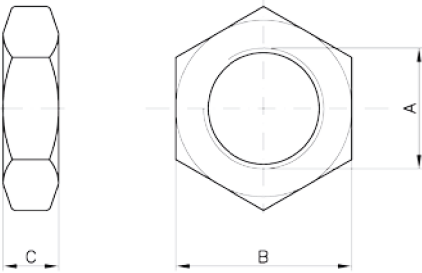
Ø mm	FORZA DI SPINTA (N) THRUST FORCE (N)	FORZA DI TRAZIONE (N) TRACTION FORCE (N)
16	105	88
20	165	141
25	266	219



DADO PER TESTATE / NUT FOR COVERS

Ø mm	A	B	C	CODICE/CODE
8-10	M12X1.25	19	7	ANA40B
12-16	M16X1.5	22	5	ANT12/16
20-25	M22X1.5	27	8	ANT20/25

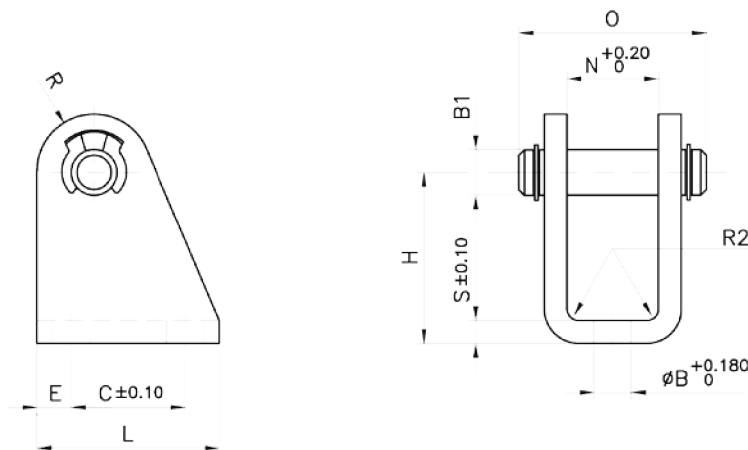
MATERIALE: ACCIAIO
MATERIAL: STEEL



DADO PER ASTE / NUT FOR PISTON ROD

Ø mm	A	B	C	CODICE/CODE
8-10	M4	7	3.2	ANA08/10
12-16	M6	10	4	ANA12/16
20	M8X1.25	13	5	ANA20
25	M10X1.25	17	6	ANA25

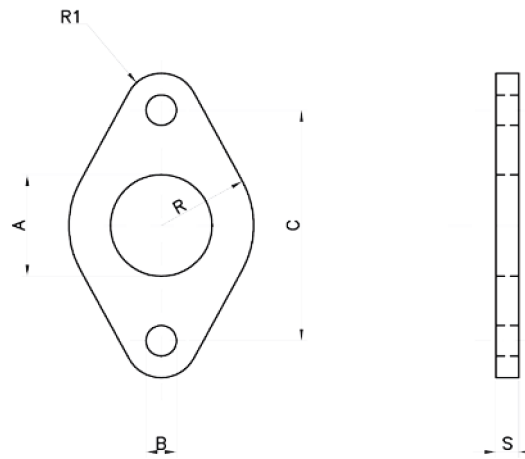
MATERIALE: ACCIAIO
MATERIAL: STEEL



MATERIALE: ACCIAIO
MATERIAL: STEEL

CERNIERA / HINGE (MP3)

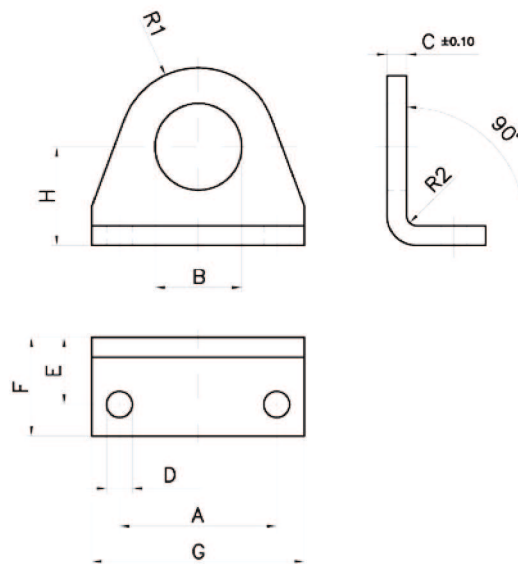
Ø mm	L	H	B1	S	E	C	N	B	O	R	R2	CODICE/CODE
8-10	20	24	4	2.5	3.75	12.5	8.1	4.5	18	5	1.5	AFO08/10
12-16	25	27	6	3	5	15	12.1	5.5	24	7	1.5	AFO12/16
20-25	32	30	8	4	6	20	16.1	6.6	31	10	2	AFO20/25



MATERIALE: ACCIAIO
MATERIAL: STEEL

FLANGIA / FLANGE (MF8)

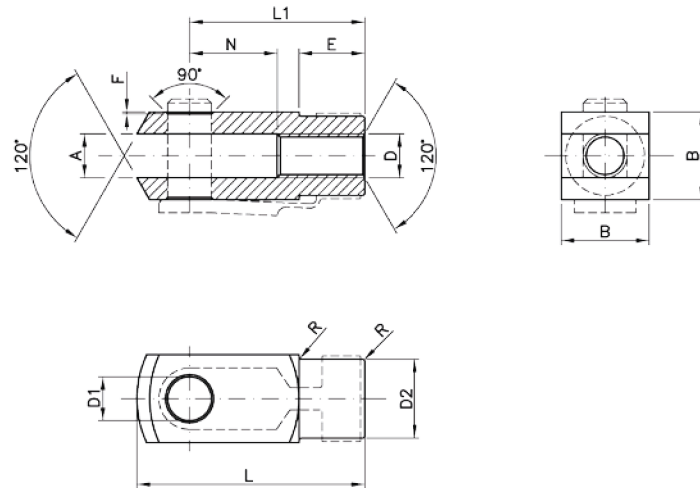
Ø mm	A	B	C	R	R1	S	CODICE/CODE
8-10	12	4.5	30	11	5	3	AF08/10
12-16	16	5.5	40	15	6	4	AF12/16
20-25	22	6.5	50	20	8	5	AF20/25



MATERIALE: ACCIAIO
MATERIAL: STEEL

PIEDINO / FOOT (MS3)

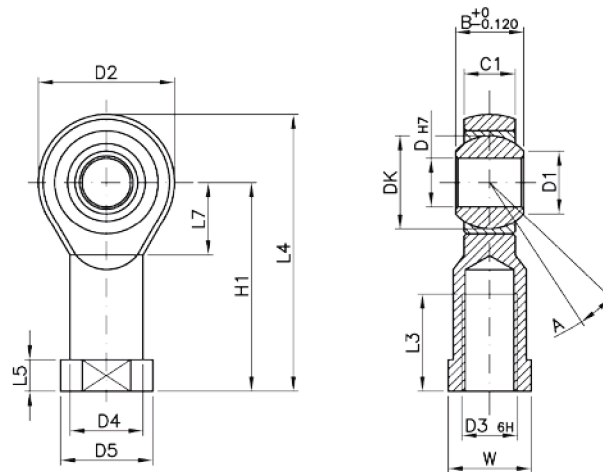
Ø mm	A	B	C	D	E	F	G	H	R1	R2	CODICE/CODE
8-10	25	12	3	4.5	11	16	35	16	10	1.5	AP08/10
12-16	32	16.1	4	5.5	14	20	42	20	13	2	AP12/16
20-25	40	22.1	5	6.6	17	25	54	25	20	2.5	AP20/25



MATERIALE: ACCIAIO
MATERIAL: STEEL

FORCELLA IN ACCIAIO ZINCATO COMPLETA DI CLIP / CLEVIS WITH LOCKABLE PIN

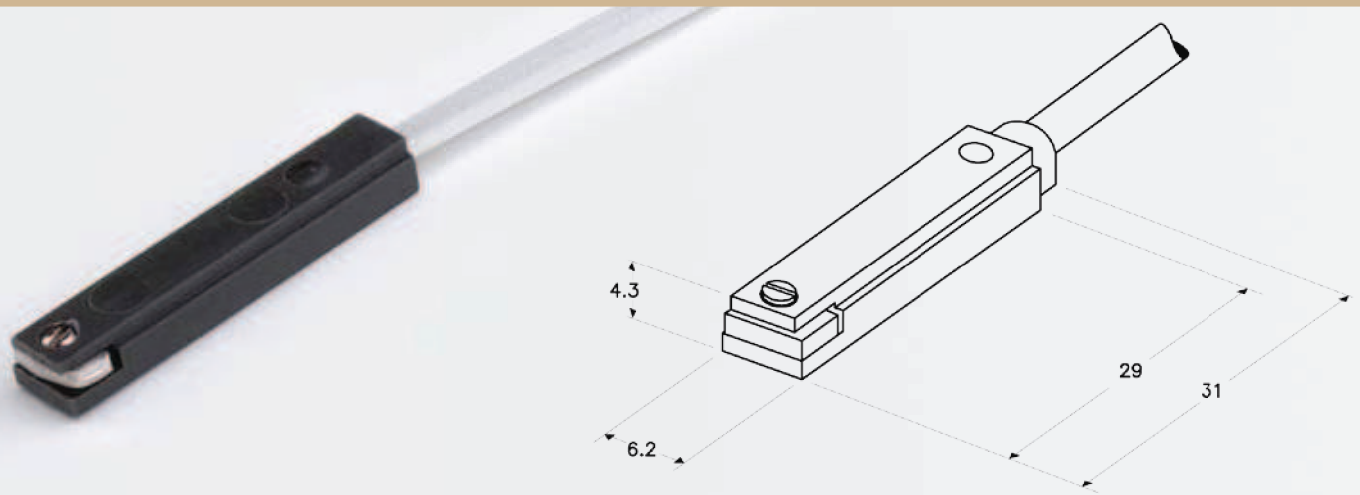
D	A	F	L1	N	E	B	D1	R	D2	L	CODICE/CODE
M4	4	0.5	16	8	6	8	4	0.5	8	21	FORM4ISO
M6	6	0.5	24	12	9	12	6	0.5	10	31	FORM6ISO
M8	8	0.5	32	16	12	16	8	0.5	14	42	FORM8ISO
M10x1.25	10	0.5	40	20	15	20	10	0.5	18	52	FORM10ISO



MATERIALE: ACCIAIO
MATERIAL: STEEL

TESTA A SNODO AUTOLUBRIFICANTE / SELF-LUBRICATING ROD END

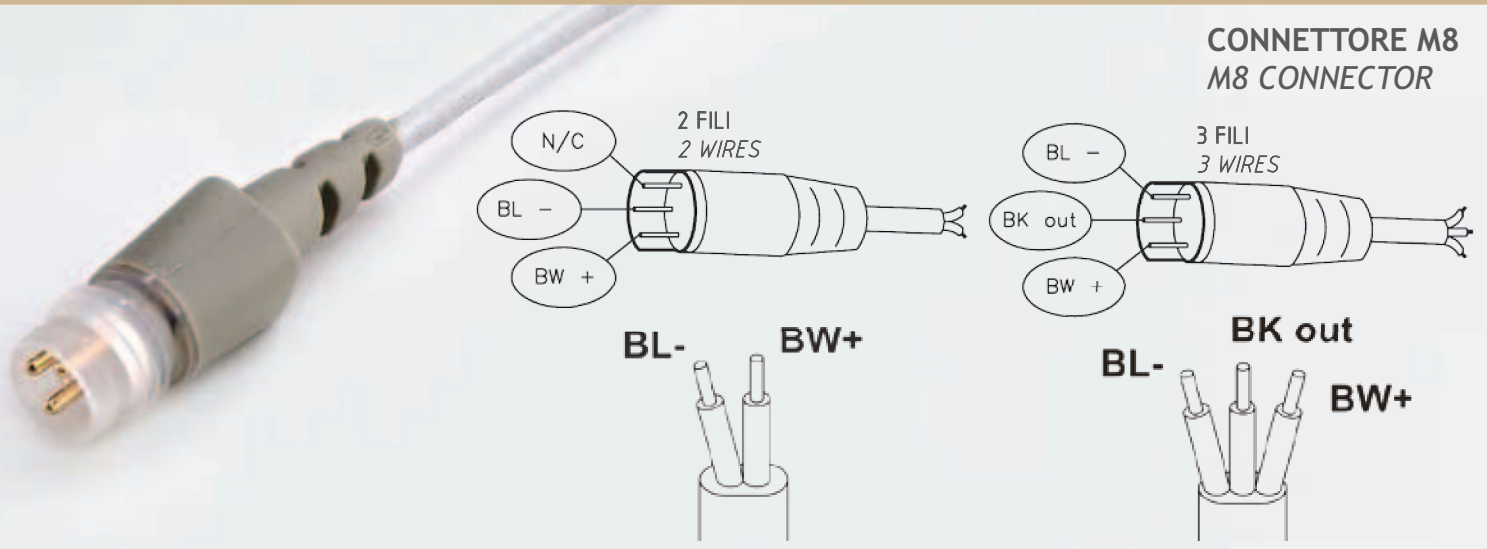
D3	W	L3	A	D	DK	D1	C1	B	D4	D5	L5	L7	H1	L4	D2	CODICE/CODE
M4	9	10	13°	5	11.112	7.7	6	8	9	11	4	10	27	36	18	TSNDM4x0.7
M6	11	12	13°	6	12.7	8.9	6.75	9	10	13	5	11	30	40	20	TSNDM6x1
M8	14	16	14°	8	15.875	10.4	9	12	12.5	16	5	13	36	48	24	TSNDM8x1.25
M10x1.25	17	20	13°	10	19.050	12.9	10.5	14	15	19	6.5	15	43	57	28	TSNDM10x1.25



SERIE / SERIES	ZS		
Interruttore con cavo <i>Switch with cable</i>	ZS3201	ZS3300	ZS4300
Interruttore con connettore M8 <i>Switch with connector M8</i>	ZS3210	ZS3310	ZS4301
Tipo Sensore <i>Sensor Type</i>	Contatto reed N.O. <i>Reed switch N.O.</i>	Contatto reed PNP N.O. <i>Reed switch PNP N.O.</i>	Magnetoresistivo PNP N.O. <i>Magnetoresistive PNP N.O.</i>
Tensione di alimentazione <i>Power supply</i>	3÷30 V ac/dc		3÷30 V dc
Corrente di commutazione <i>Switching current</i>	0.2 A		
Potenza (carico ohmico) <i>Power (ohmic load)</i>	6 W		
Caduta di tensione <i>On voltage drop</i>	≤ 3 V	/	≤ 1 V
Tempo commutazione "ON" <i>Response time "ON"</i>	0.5 ms		0.8 μs
Tempo commutazione "OFF" <i>Response time "OFF"</i>	0.1 ms		0.3 μs
Punto di lavoro nominale <i>Nominal operate point</i>	20÷25 AT		40 Gauss (34-46) Gauss
Differenza ON-OFF <i>ON-OFF differential</i>	5÷10 AT		5÷15 Gauss
Temperatura lavoro <i>Operating temperature</i>	-10 ÷ +70 °C		
Frequenza di lavoro <i>Operating frequency</i>	max 500 Hz		max 200 KHz
Vita elettrica <i>Life time</i>	10 ⁷ imp		10 ⁹ imp
Protezione contro inversione di polarità <i>Polarity reversal protection</i>	SI / YES		
Protezione contro corto-circuito <i>Short circuit protection</i>	/		
Grado di protezione <i>Environmental protection degree</i>	IP 67		
Configurazioni circuitali <i>Wiring schematics</i>			

CAVI PER SENSORI

SENSORS CABLES

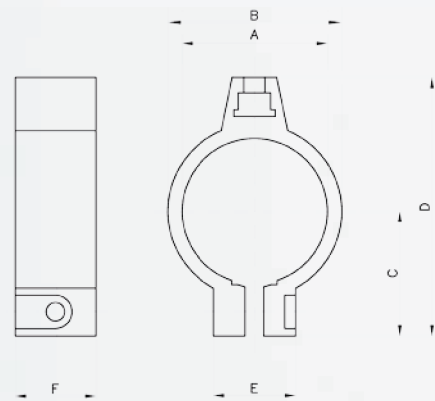


Lunghezza cavo standard Standard cable length	2.5 m (cavo diretto / flying connector with cable) 0.3 m (cavo con connettore / plug connector with cable)
Conduttori Conductors	0.14 mm ² / AWG 26 / (36x 0.07 mm ²)
Isolamento Isolation	PVC
Guaina Sheath	PVC ø 2.7 mm
Test di fiamma Flame test	V2
Certificazione Certification	CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2; CEI EN 61000-4-3 CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-8; CEI EN 61000-4-11; CEI EN 61000-4-6

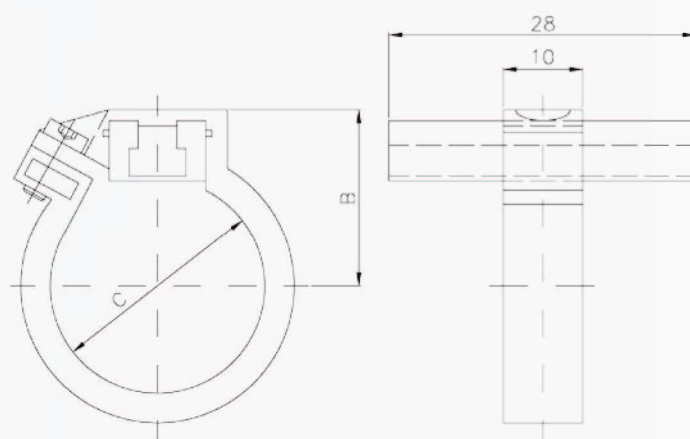
CIRCUITI DI PROTEZIONE PER SENSORI	PROTECTION CIRCUIT FOR SWITCHES
<p>La commutazione di carichi induttivi da parte dei contatti REED produce un elevato picco di tensione al momento della disinserzione. Per tale motivo, al fine di prevenire eventuali scariche dielettriche oppure un arco voltaico, è necessario introdurre un circuito di protezione. Questo può essere:</p> <ul style="list-style-type: none"> -un circuito R-C in parallelo al fincorsa se alimentato in V dc - (vedi Fig.1) -un diodo in parallelo al carico se alimentato in V dc - (vedi Fig.2) -n°2 diodi Zener in parallelo al carico se alimentato in V ac/dc - (vedi Fig.3) -un varistore (VDR) in parallelo al carico se alimentato in V ac/dc - (Fig.4) <p>La commutazione di carichi capacitivi o l'impiego di cavi con lunghezza maggiore a metri 10 produce picchi di corrente al momento dell'inserzione. Perciò è necessario prestare attenzione garantendo la minima corrente necessaria per pilotare il sensore. (10=20 mA).</p>	<p>The switching of inductive loads made by REED produces an high voltage peak during the drop-out. In order to prevent dielectric discharges or voltaic arcs, you have to introduce a protection circuit. It can be:</p> <ul style="list-style-type: none"> -a R-C circuit in parallel to the switch in case of V dc supply - (Img.1) -a diode in parallel to the load in case of V dc supply - (Img.2) -n°2 Zener diodes in parallel to the load with V ac/dc supply - (Img.3) -a varistor (VDR) in parallel to the load with V ac/dc supply - (Img.4) <p>The switching of capacitive loads or the use of cables longer than 10 meters produces current peaks during the connection. For this reason you have to introduce a protection resistance near the switch on the brown wire. Please, pay attention in granting the minimum necessary current to the switch. (10=20 mA)</p>
<p>.1</p>	<p>.3</p>
<p>.2</p>	<p>.4</p>

FISSAGGI PER SENSORI - CILINDRI TONDI

MOUNTING PARTS FOR SENSORS - ROUND CYLINDERS



Ø mm cilindro cylinder	A	B	C	D	E	F	CODICE/CODE
8	Ø 9.3	12.3	11.1	23.9	12.3	9	NT-08
10	Ø 11.3	14.3	12.2	25.9			NT-10
12	Ø 13.3	16.3	13.2	28			NT-12
16	Ø 17.3	20.3	15.3	32.1			NT-16
20	Ø 21.3	24.3	17.4	36.2	14		NT-20
25	Ø 26.5	29.5	20	41.4			NT-25



Ø mm cilindro cylinder	B	C	CODICE/CODE
32	27	33.6	NT-32
40	31	41.6	NT-40
50	37	52.4	NT-50
63	42	65.4	NT-63

FISSAGGI PER SENSORI - CILINDRI TIRANTATI

MOUNTING PARTS FOR SENSORS - TIE ROD CYLINDERS



Ø mm cilindro cylinder	A	B	C	CODICE/CODE
32-63	14	9	22	NT-3263XR
80-100	19	12	34	NT-80100XR
125	21	14	33	NT-125XR
160-200	26	18	42	NT-160200XR
250	26	20.5	42	NT-250XR
320	26	25.5	42	NT-320XR

COPERTURA PER CAVA SENSORE

COVERING FOR SENSOR SLOT



MATERIALE/MATERIAL	COLORE/COLOR	LUNGHEZZA/LENGHT	CODICE/CODE
PLASTICA/PLASTIC	BLU/BLUE	0.5	XLB-11