

AC Series Shock absorber



● Ordering Code

AC

Series type  
AC: Auto compensatory  
AD: Adjustable type

14

Female thread of axletree

16

Stroke

1

Impingement speed  
1: High impact speed  
2: Medium impact speed  
3: Low impact speed

N

Cushion cover  
Blank: With cushion cover  
N: Without cushion cover

■ Specification

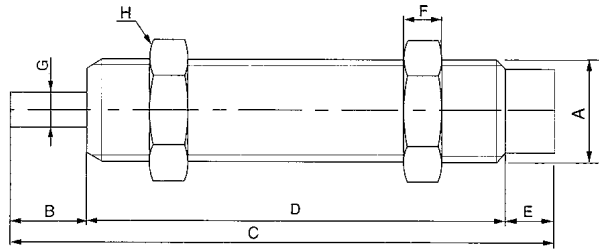
Item	Stroke mm	Max. energy absorbed Nm	Max. energy absorbed/hour Nm	Max. effective weight Kg			Max. shock speed m/s			Working Temperature°C
				1	2	3	1	2	3	
AC-0806	6	2	1200	0.5	2	6	2	1	0.5	-10~80
AC-1005	5	3	3600	1	3	7	3	1.5	0.8	-10~80
AC-1008	8	4	5000	2	4	9	3	1.5	0.8	-10~80
AC-1210	10	5	10,000	5	10	30	2	1.5	0.8	-10~80
AC-1412	12	15	30,000	8	50	100	3	1.5	0.8	-10~80
AC-1416	16	20	35,000	10	70	150	3	1.5	0.8	-10~80
AC-2020	20	40	40,000	30	200	700	3.5	2	1	-10~80
AC-2050	50	60	60,000	60	400	1200	3.5	2	1	-10~80
AC-2525	25	80	70,000	200	800	1500	4	2.5	1	-10~80
AC-2540	40	120	75,000	300	1200	2000	4	2.5	1	-10~80
AC-3660	60	250	120,000	400	1500	2400	4	2.5	1	-10~80

### AC Series Shock absorber

#### ■ Specification

Item	Stroke mm	Max. energy absorbed Nm	Max. energy absorbed/hour Nm	Max. effective weight Kg			Max. shock speed m/s			Working Temperature °C
				1	2	3	1	2	3	
AD-1410	10	20	25,000	80			3			-10~80
AD-2016	16	25	30,000	200			3.5			-10~80
AD-2525	25	85	70,000	400			3.5			-10~80
AD-2540	40	100	80,000	700			3.5			-10~80
AD-3650	50	300	100,000	1400			3			-10~80
AD-4225	25	260	125,000	3000			3.5			-10~80
AD-4250	50	500	150,000	4000			4.5			-10~80
AD-4275	75	750	180,000	6000			4.5			-10~80
AD-6450	50	12,000	1500,000	12727			1.5			-10~80
AD-64100	100	24,000	2000,000	18181			1.5			-10~80
AD-64150	150	36,000	2500,000	23636			1.5			-10~80

#### ● Without cushion cover

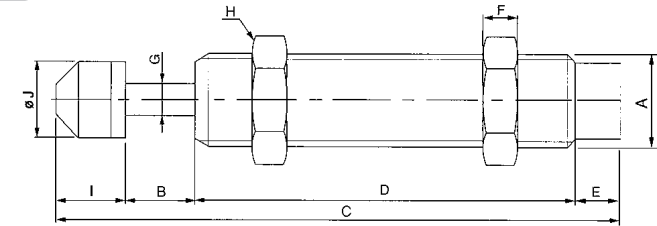


#### ■ Figure Dimension

Specification/Type	A	B	C	D	E	F	G	H
AC-0806	M8x1.0	6	44	33	5	3	2.8	11
AC-1005	M10x1.0	5	32.7	22.9	4.8	3	3	12.7
AC-1008	M10x1.0	8	51	38	5	3	3	12.7
AC-1210	M12x1.0	10	60	45.5	4.5	4	3	14
AC-1412	M14x1.5	12	88	67	9	6	4	19
AC-1416	M14x1.5	16	111	86	9	6	4	19

### AC Series Shock absorber

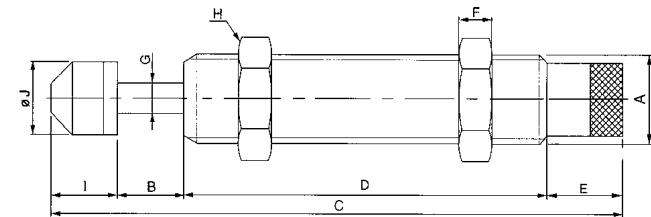
#### ● With cushion cover



#### ■ Figure Dimension

Specification/Type	A	B	C	D	E	F	G	H	J
AC-0806	M8x1.0	6	52.4	33	5	3	2.8	11	6.6
AC-1005	M10x1.0	5	41.2	22.9	4.8	3	3	12.7	8.6
AC-1008	M10x1.0	8	59.5	38	5	3	3	12.7	8.6
AC-1210	M12x1.0	10	69.5	45.5	4.5	4	3	14	10.3
AC-1412	M14x1.5	12	102.5	67	9	6	4	19	12
AC-1416	M14x1.5	16	125.5	86	9	6	4	19	12
AC-2020	M20x1.5	20	146.5	101	9	8	6	26	18
AC-2050	M20x1.5	50	233.5	158	9	8	6	26	18
AC-2525	M25x1.5	25	154.3	101	10	10	8	32	22
AC-2540	M25x1.5	40	208.3	127	10	10	8	32	22
AC-3660	M36x1.5	60	243	134	11	15	10	46	35

#### ● Adjustable Type

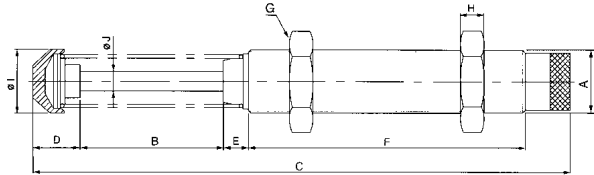


#### ■ Figure Dimension

Specification/Type	A	B	C	D	E	F	G	H	I	J
AD-1410	M14x1.5	10	113.5	73	16	6	4	19	14.5	12
AD-2016	M20x1.5	16	149.5	101	16	8	6	26	16.5	18
AD-2525	M25x1.5	25	161.8	101	17.5	10	8	32	18.3	22
AD-2540	M25x1.5	40	215.8	127	17.5	10	8	32	31.3	22

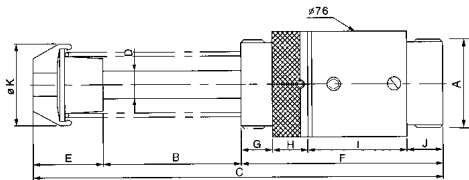
### AC Series Shock absorber

● Adjustable Type



■ Figure Dimension

Specification/Type	A	B	C	D	E	F	G	H	I	J
AD-3650	M36x1.5	50	242	21	17	146	46	15	35	10
AD-4225	M42x1.5	25	186.5	34	26	104.5	50	15	44.5	12
AD-4250	M42x1.5	50	241	34	26	134	50	15	44.5	12
AD-4275	M42x1.5	75	301.5	39	26	164.5	50	15	44.5	12



■ Figure Dimension

Specification/Type	A	B	C	D	E	F	G	H	I	J	K
AD-6450	2 1/2-UNF(63.5)	50	247.8	20	51.8	146	23	20	77	26	59
AD-64100	2 1/2-UNF(63.5)	100	347.8	20	51.8	196	23	20	127	26	59
AD-64150	2 1/2-UNF(63.5)	150	467.8	20	61.8	256	23	20	187	26	59

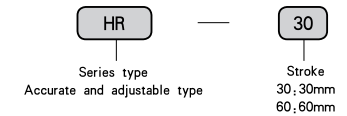
### HR Series



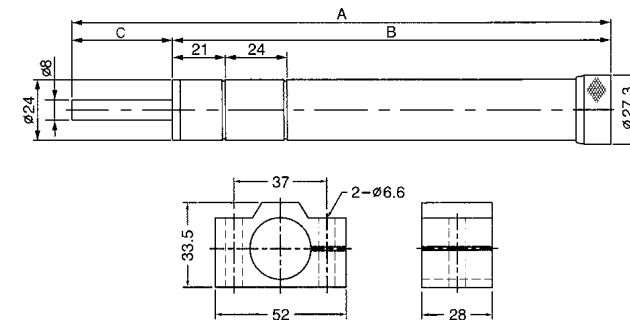
● Product characteristic

1. It can control steadily for a long time and return by spring.
2. It's dustproof and leak proof with complete hermetic structure. Can be used in different special conditions.
3. Under the change of temperature, oil viscosity is still very steady.
4. For small volume and easy installation, it's comprehensive used in manipulator, grind machine and cutting machine etc.

● Ordering Code



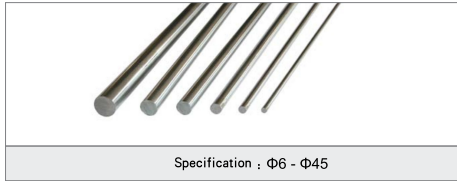
■ Figure Dimension



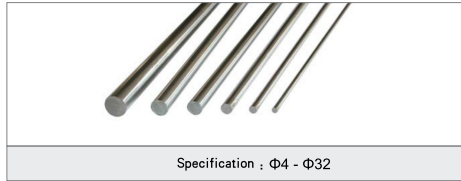
Type	A	B	Max.Stroke	Applicable temperature	Max.Weight	Adjustable speed range
HR15	151	136	15mm	0-60°C	15-350 kgf	0.5-30mm/s( load:100kg)
HR30	202	172	30mm	0-60°C	15-350 kgf	0.5-30mm/s( load:100kg)
HR60	254	194	60mm	0-60°C	15-350 kgf	0.5-30mm/s( load:100kg)
HR80	336	256	80mm	0-60°C	15-350 kgf	0.5-30mm/s( load:100kg)
HR100	390	290	100mm	0-60°C	15-350 kgf	0.5-30mm/s( load:100kg)

Accessories for cylinder

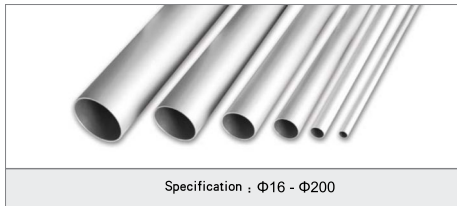
45 Piston rod



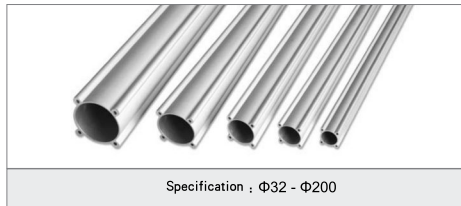
304 Stainless steel Piston rod



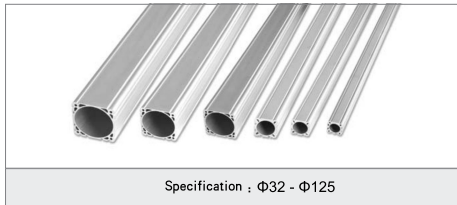
TGC/TGI Bore



TGU/TGI Bore



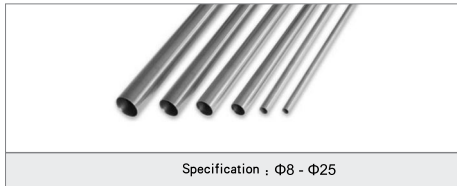
TGD Bore



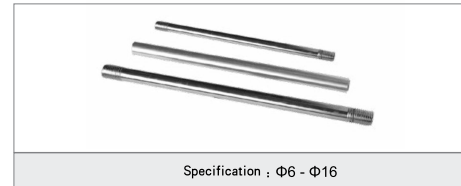
TGN Bore



TGL/TGA Bore



TGC/TGI Tie rod



Accessories for cylinder

TGD Cylinder kits (ISO6431&VDMA24562)



TGC Cylinder kits



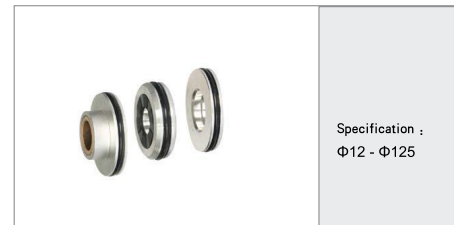
TGI Cylinder kits (ISO6431&VDMA24562)



TGU Cylinder kits



TGN Cylinder kits



TGA Cylinder kits



TGL Cylinder kits (ISO6432)



TGM Cylinder kits



### TGD/TGI Installing Accessories

Accord : ISO15552 (ISO6431)  
VDMA24562

#### ● Ordering Code

**TGD**

Type:  
TGD TGI

**32**

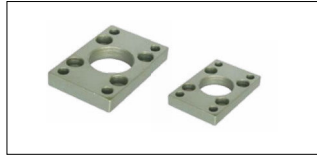
Bore size

**LB**

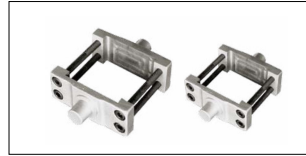
Accessory Type



● LB



● FA, FB



● TC



● CA

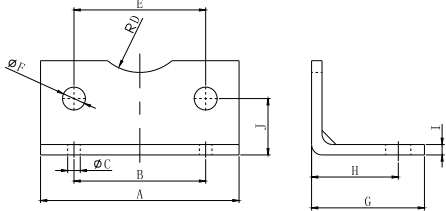


● CB



● CR

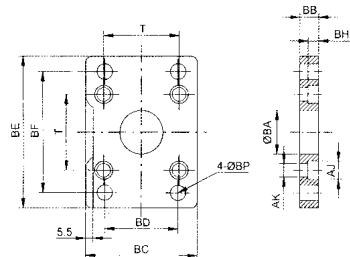
#### ● LB



bore	A	B	C	D	E	F	G
32	47	32	ø7	32	32,5	ø6,5	30,5
40	54	36	ø9	38	38	ø6,5	37
50	64,5	45	ø9	42	46,5	ø8,5	41,5
63	77	50	ø9	48	56,5	ø8,5	44,5
80	95	63	ø12,5	48	72	ø10,5	56
100	115	75	ø14,5	58	89	ø10,5	58,5
125	140	90	ø10,5	30	110	12,5	65

bore	H	I	J
32	6,5	5	15,75
40	9	5	17
50	10,5	6	21,75
63	12,5	6	21,75
80	15	6	27
100	17,5	6	26,5
125	45	8	35

#### ● FA, FB

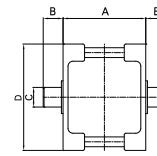


Bore	32	40	50	63	80	100	125
BA	30,3	35,3	40,3	45,3	45,3	55,3	60,5
BB	10	10	12	12	16	16	20
BC	46,5	54	64,5	77	95	115	142
BD	32	36	45	50	63	75	90
BE	80	90	110	120	150	175	210
BF	64	72	90	100	126	150	180
BH	6,5	6,5	8,5	8,5	10,5	10,5	12,5
AJ	10,5	10,5	13,5	13,5	16,5	16,5	18,5
AK	6,5	6,5	8,5	8,5	10,5	10,5	12,5
BP	7	9	9	9	12	14	16
T	32,5	38	46,6	56,5	72	89	110

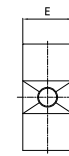
### TGD/TGI Installing Accessories

According to : ISO15552 (ISO6431)  
VDMA24562

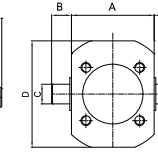
#### ● TC



TGD-TC



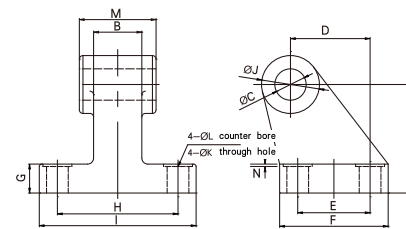
TGI-TC asterisked bore



TGI-TC round bore

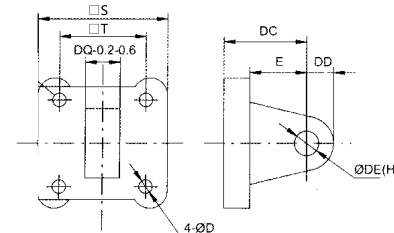
Bore	32	40	50	63	80	100	125
A	50	63	75	90	110	132	160
B	12	16	16	20	20	25	25
C	12	16	16	20	20	25	25
D	50	60	75	90	110	132	160
E (TGD)	30	32	34	41	44	48	48
E (TGI)	16	20	24	24	28	38	50

#### ● CR (used with CB)



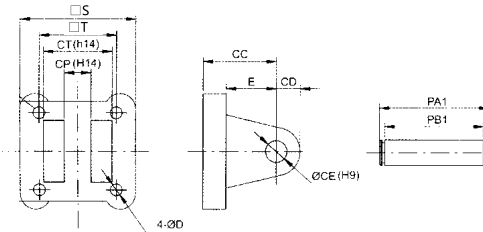
Bore	32	40	50	63	80	100	125
A	32	36	45	50	63	71	90
C	10	12	12	16	16	20	25
D	21	24	33	37	47	55	70
E	18	22	30	35	40	50	60
F	31	35	45	50	60	70	90
G	8	10	12	12	14	15	20
H	38	41	50	52	66	76	94
I	51	54	65	67	86	96	124
J	20	22	24	30	30	38	44
K	6,6	6,6	9	9	11	11	14
L	11	11	15	15	18	18	20
M	25,8	27,8	31,8	39,8	49,8	59,8	70
N	1,6	1,6	1,6	1,6	2,5	2,5	3,2

#### ● CA (used with CB)



Bore	32	40	50	63	80	100	125
S	46,5	54	65	77	95	115	142
T	32,5	38	46,5	56,5	72	89	110
DC	22	25	27	32	36	41	50
DD	10	12	12	16	16	20	26
DE	10	12	12	16	16	20	25
DD	25,8	27,8	31,8	39,8	49,8	59,8	70
D	6,5	6,5	8,5	8,5	10,5	10,5	12,5
E	14	17	17	22	24	25	30

#### ● CB

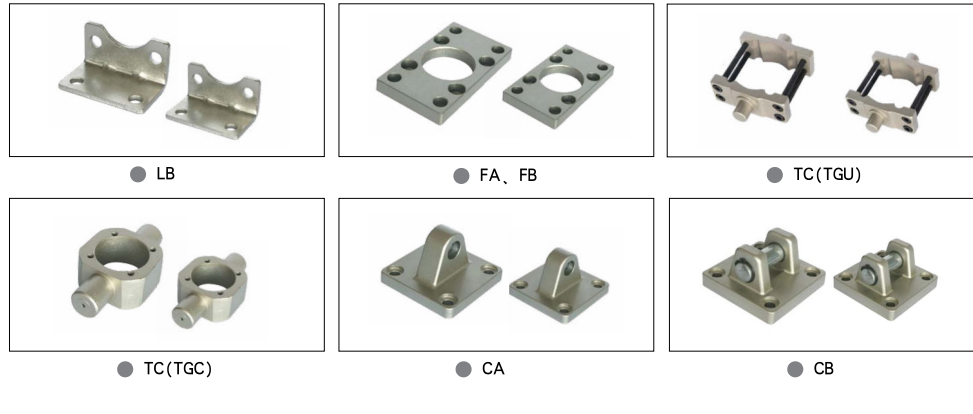
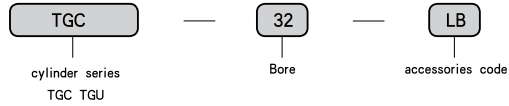


Bore	32	40	50	63	80	100	125
S	46,5	54	64,5	77	95	115	142
T	32,5	38	46,5	56,5	72	89	110
D	6,5	6,5	8,5	8,5	10,5	10,5	12,5
E	14	17	17	22	24	25	30
CC	22	25	27	32	36	41	50
CD	10	12	12	16	16	20	26
CE	10	12	12	16	16	20	25
CP	26	28	32	40	50	60	70
CT	45	52	60	70	90	110	128
PA1	53	60	68	78	100	120	138
PB1	46,5	53,5	61,5	71,5	91,5	111,5	130



TGC/TGU series accessories

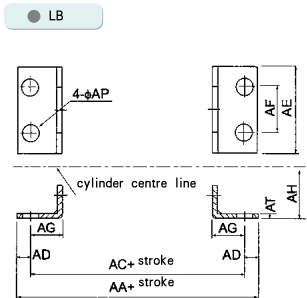
● ordering code



■ accessories table

Model /accessories	LB	FA	FB	CA	CB	TC
TGU	●	●	●	●	●	●
TGUD/TGUJ	●	●	●	X	X	●
TGC	●	●	●	●	●	●
TGCD/TGCJ	●	●	●	X	X	●
TGCT	●	●	●	X	X	X

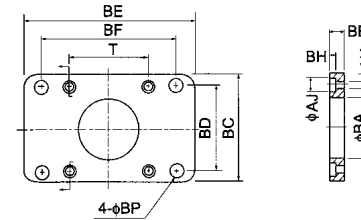
■ figure dimension



Bore	32	40	50	63	80	100	125	160	200
AA	153	169	173	184	199	209	290	340	380
AC	134	140	149	158	167	173	250	300	320
AD	9,5	14,5	12	13	16	18	20	20	30
AE	50	57	68	80	97	112	140	180	220
AF	33	36	47	56	70	84	90	115	135
AG	20,5	23,5	28	31	30	30	45	60	70
AH	28	30	36,5	41	49	57	90	115	135
AP	9	12	12	12	14	14	16,5	18,5	24
AT	3	3	3	3	4	4	8	8	9

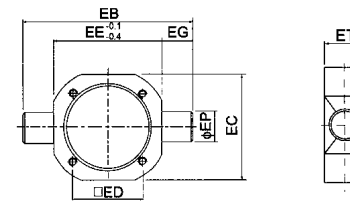
TGC/TGU series accessories

● FA ● FB



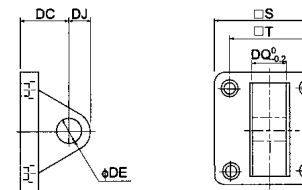
Bore	32	40	50	63	80	100	125	160	200
BA	28,3	32,3	38,3	38,3	47,3	47,3	60,5	65,5	75,5
BB	10	10	10	12	16	16	20	20	25
BC	47	52	65	76	95	115	140	180	220
BD	33	36	47	56	70	84	90	115	135
BE	72	84	104	116	143	162	224	280	320
BF	58	70	86	98	119	138	180	230	270
BH	6,5	6,5	6,5	8,5	10,5	10,5	12,5	12,5	16,5
AJ	10,5	10,5	10,5	13,5	16,5	16,5	19	24,5	25
AK	6,5	6,5	6,5	8,5	10,5	10,5	13	17	17
BP	7	7	9	9	11	11	16,5	18,5	24
T	33	37	47	56	70	84	110	140	175

● TC



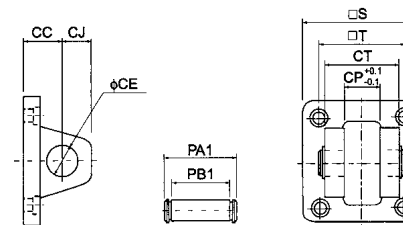
Bore	FB	EC	ED	EE	EG	EP	ET	S
32	87	53	33	55	16	16	30	37,5
40	113	63	37	63	25	25	30	45,5
50	126	76	47	76	25	25	30	55,5
63	138	88	56	88	25	25	30	68,5
80	164	114	70	114	25	25	35	87,5
100	182	132	84	132	25	25	40	107,5

● CA



Bore	32	40	50	63	80	100	125	160	200
S	48	50	62	75	94	112	140	180	220
T	33	37	47	56	70	84	110	140	175
DC	34	34	34	34	48	48	50	55	60
DD	14	14	15	15	20	20	25	30	30
DE	12	14	14	14	20	20	25	30	30
DJ	14	14	15	15	20	20	33	35,5	36
DQ	16	20	20	20	32	32	69,7	89,7	89,7

● CB



Bore	32	40	50	63	80	100	125	160	200
CC	19	19	19	19	32	32	50	55	60
CD	5	5	3	3	8	8	25	30	30
CE	12	14	14	14	20	20	25	30	30
CJ	13	13	15	15	21	21	31	35,5	36
CP	16,3	20,3	20,3	20,3	32,3	32,3	70	90	90
CT	32	44	52	52	64	64	130	170	170
PA1	41	51,8	60,3	60,3	73,8	73,8	139	181	181
PB1	33,5	45,5	54	54	65,5	65,5	130,5	170,5	170,5
S	48	50	62	75	94	112	140	180	220
T	33	37	47	56	70	84	110	140	175

### TGA/TGM/TGL Installing Accessories

Accord : ISO6432

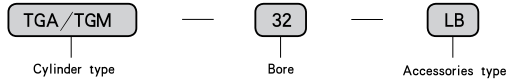


● SDB

● FA

● LB

#### ● Ordering Code



#### ■ accessories table

Accessories / model	TGA	TGAC	TGSA	TGAD	TGCD	TGAJ	TGACJ	TGAR	TGARC
FA	●	●	●	●	●	●	●	×	×
LB	●	●	●	●	●	●	●	×	×
SDB	●	●	●	×	×	×	×	×	×

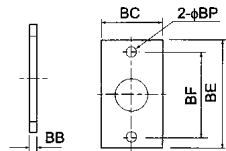
#### ■ accessories table

Accessories / model	TGM	TGSM	TGMD	TGMJ
FB	●	●	●	●
LB	●	●	●	●
SDB	●	●	×	×

#### ■ Figure Dimension

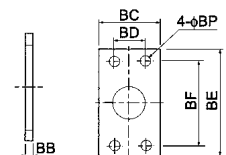
##### ● FA

●  $\phi 16 \sim \phi 25$



Bore	BB	BC	BD	BE	BF	BP
16	3	26	—	52	40	5,5
20	4	38	—	64	50	6,5
25	4	38	—	64	50	6,5
32	4	47	33	72	58	6,5
40	4	50	36	84	70	6,5

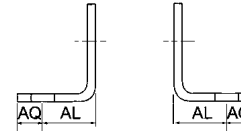
●  $\phi 32 \sim \phi 40$



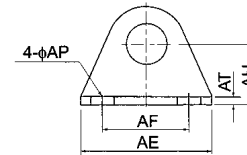
### TGA/TGM/TGL Installing Accessories

according to : ISO6432

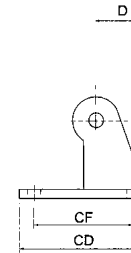
##### ● LB



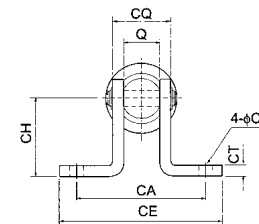
Bore	AE	AF	AL	AO	AP	AT	AH
16	44	32	13	6	5,5	3	20
20	54	40	15	8	6,5	3	25
25	54	40	15	8	6,5	3	25
32	59	45	25	8	6,5	4	32
40	64	50	25	8	6,5	4,5	36



##### ● SDB



Bore	D	Q	CA	CD	CE	CF	CH	CT	CP	CQ
16	16	12	—	23	—	12	20	2,3	5,5	16,5
20	21	16	51	48	67	32	32	3	6,5	22
25	21	16	51	48	67	32	32	3	6,5	22
32	27	16	51	52	67	36	36	4	6,5	24
40	27	20	55	56	71	40	40	4	6,5	28



### Connecting Accessories

international common standard

Rod End Eye—U



Floating Joint—F



Rod End Fork—Y



Rod End Axes—I



#### Ordering Code

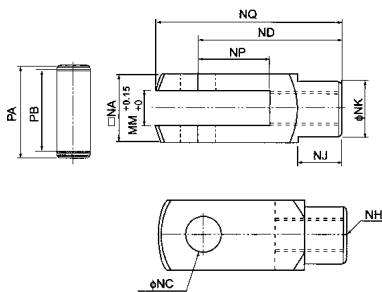
TGCJ  
Cylinder type

50  
Bore size

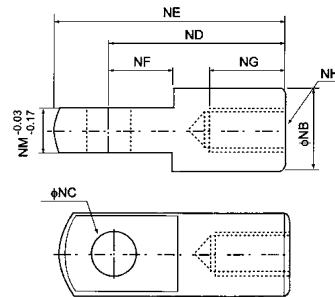
Y  
I, Rod End Axes  
Y, Rod End Fork  
F, Floating Joint  
U, Rod End Eye

#### Figure Dimension

Rod End Fork—Y



Rod End Axes—I

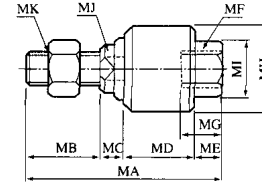


### Connecting Accessories

international common standard

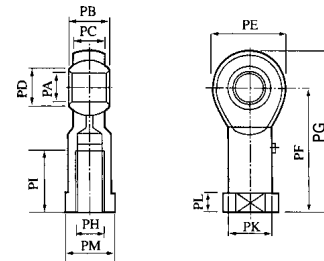
Bore	NA	NB	NC	ND	NE	NF	NG	NH	NJ	NK	NM	NP	NQ	PA	PB
32	19	20	10	40	52	15	20	M10x1.25	12	18	10	20	52	25	19.5
40	25.4	24	12	48	67	24	20	M12x1.25	20	23	12	24	62	32.8	26.5
50	32	32	16	64	89	32	23	M16x1.5	22	30	16	32	83	39.3	33
63	32	32	16	64	89	32	23	M16x1.5	22	30	16	32	83	39.3	33
80	44.4	40	20	80	112	40	30	M20x1.5	30	39	20	40	105	53.3	45
100	44.4	40	20	80	112	40	30	M20x1.5	30	39	20	40	105	53.3	45
125	55	—	30	110	155	50	56	M27x2.0	—	—	30	54	148	64	55.6
160	70	—	35	144	201	50	72	M36x2.0	—	—	35	72	191	80	70.6
200	70	—	35	144	201	50	72	M36x2.0	—	—	35	72	191	80	70.6

Floating Joint—F



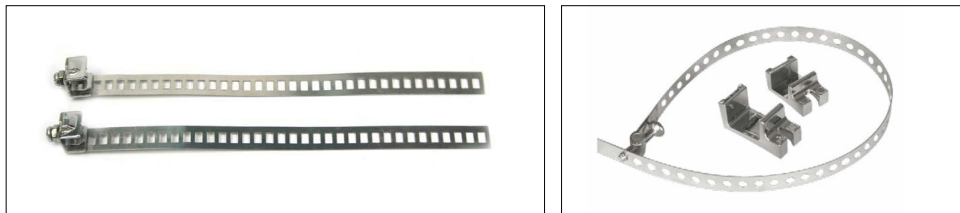
Bore	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK
20	51	20	6	17	8	M8x1.25	12	24	13	8	M8x1.25
25	58	22	7	21	8	M10x1.25	12	26	17	10	M10x1.25
32	58	22	7	21	8	M10x1.25	12	26	17	10	M10x1.25
40	58	22	8	21	7	M12x1.25	12	28	19	12	M12x1.25
50	90	27	10	41	12	M16x1.5	14	45	27	15	M16x1.5
63	90	27	10	41	12	M16x1.5	14	45	27	15	M16x1.5
80	102	29	13	46	14	M20x1.5	18	53	33	22	M20x1.5
100	102	29	13	46	14	M20x1.5	18	53	33	22	M20x1.5
125	147	54	135	77	16	M27x2.0	40	—	—	24	M27x2.0
160	251	72	18	161	18	M36x2.0	78	—	—	36	M36x2.0
200	251	72	18	161	18	M36x2.0	78	—	—	36	M36x2.0

Rod End Eye—U



Bore	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM
20	8	12	9	10.4	22	36	47	M8x1.25	17	16	12.5	5	14
25	10	14	11	12.9	26	43	56	M10x1.25	21	19	15	6.5	17
32	10	14	11	12.9	26	43	56	M10x1.25	21	19	15	6.5	17
40	12	16	12	15.4	30	50	65	M12x1.25	24	22	17.5	6.5	19
50	16	21	15	19.3	38	64	83	M16x1.5	33	27	22	8	22
63	16	21	15	19.3	38	64	83	M16x1.5	33	27	22	8	22
80	20	25	18	24.3	46	77	100	M20x1.5	40	34	27.5	10	32
100	20	25	18	24.3	46	77	100	M20x1.5	40	34	27.5	10	32
125	30	—	37	36	70	110	145	M27x2.0	51	—	—	—	—
160	35	—	43	41	80	125	165	M36x2.0	56	—	—	—	—
200	35	—	43	41	50	125	165	M36x2.0	56	—	—	—	—





Mounting band: BK PAB PBM



SC series



IH series



PI series



PM series

Magnetic switch

● Ordering Code CS1-S — N — 1M — OD

Type      N: Contactless NPN      1M: normal length; 1m can be ordered by customer      within OD pinout blank; without OD pinout

P: Contactless PNP transistor

Specification	Type	Image	Size	Voltage	User
Contact/Magnetic reed	CS1-U Series			5 ~ 240VDC / AC	Used for: TGU TGC TGI
Contactless/NPN output					
Contactless/PNP output	CS1-F Series			5 ~ 30VDC	
Contact/Magnetic reed	CS1-J Series			5 ~ 240VDC / AC	Used for: TGN
Contactless/NPN output					
Contactless/PNP output					
Contact/Magnetic reed	CS1-S Series			5 ~ 240VDC / AC	Used for: TGL TGA TGM
Contactless/NPN output				5 ~ 30VDC	
Contactless/PNP output					
Contact/magnetic reed	CS1-M Series			5 ~ 240VDC / AC	Used for: TGD
Contactless/NPN output				5 ~ 30VDC	
Contactless/PNP output					
Contact/Magnetic reed	CS1-H Series			5 ~ 240VDC / AC	Used for: CXS
Contactless/NPN output	CS1-G Series			5 ~ 30VDC	Used for: TGN
Contactless/PNP output					
Contact/Magnetic reed	CS1-72 Series			5 ~ 240VDC / AC	Used for: CO2
Contactless/NPN output				5 ~ 30VDC	
Contactless/PNP output					

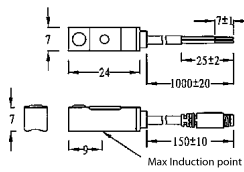
### Magnetic switch

#### CS1-S Series

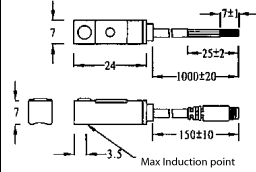


\* CS1-S series used for: TGA, TGL, TGM

#### CS1-S, CS1-S-QD

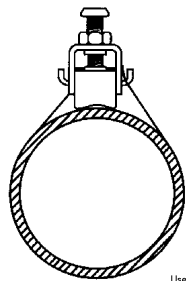


#### CS1-SP, CS1-SP-QD CS1-SN, CS1-SN-QD



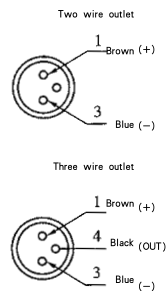
Specification	CS1-S	CS1-SN	CS1-SP
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-2400V DC/AC	5-30V DC/AC	
Switch current	100mA max.	200mA max.	
Contact rating	10W max.	6W max.	
Current consumption	None	22mA @ 24V max.	20mA @ 24V max.
Voltage drop	3.5V max.	0.5V max.	
Current leakage	None	0.01mA max.	
LED indicator	Green LED	Red LED	Green LED
Wire	3.3φ, 2C, Gray PVC	3, 3φ, 3C, Black Oil-resistant PU	
Operating Frequency	200Hz	1000Hz	
Tem range		-10-60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure classification		IEC529 IP67 (NEMA6)	
Protection circuit	None	Power source reverse polarity; Surge suppression	
Current Drawing			

#### \*CS1-S Series BK mounting band



Used for 6-63 Round cylinder

#### QD Pinout drawing



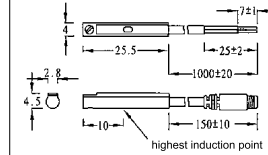
### Magnetic switch

#### CS1-H Series

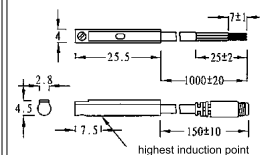


\* CS1-H series used for CXS

#### CS1-H, CS1-H-QD

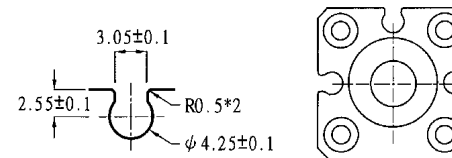


#### CS1-HP, CS1-HP-QD CS1-HN, CS1-HN-QD

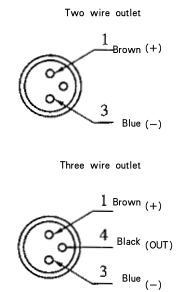


Specification	CS1-H	CS1-HN	CS1-HP
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-120V DC/AC	5-30V DC	
Switch current	100mA max.	200mA max.	
Contact rating	10W max.	6W max.	
Current consumption	None	20mA @ 24V max. (Switch Active)	
Voltage drop	2.5V max.	0.5V @ 20mA max.	
Current leakage	None	0.01mA max.	
LED indicator	Red LED	Red LED	Green LED
Wire	2.8φ, 2C, Gray PVC	2.8φ, 3C, Black Oil-resistant PU	
Operating Frequency	200Hz	1000Hz	
Tem range		-10-60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure classification		IEC529 IP67 (NEMA6)	
Protection circuit	None	Power source reverse polarity; Surge suppression	
Current Drawing			

#### \*CS1-H Series groove size, installation means Used for SMC



#### QD Pinout drawing

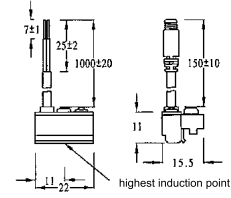


### Magnetic switch

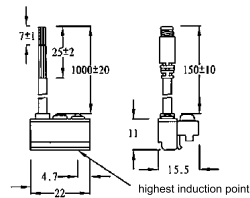
CS1-J Series



CS1-J, CS1-J-QD



CS1-JP, CS1-JP-QD  
CS1-JN, CS1-JN-QD



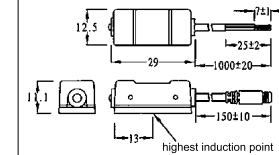
\* CS1-J series used for TGN

Specification	CS1-J	CS1-JN	CS1-JP
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-240V DC/AC	5-30V DC	
Switch current	100mA max.	200mA max.	
Contact rating	10W max.	6W max.	
Current consumption	None	22mA @ 24V max.	20mA @ 24V max.
Voltage drop	3.5V max.	0.5V max.	
Current leakage	None	0.01mA max.	
LED indicator	Green LED	Red LED	Green LED
Wire	3.3φ, 2C, Gray PVC	3, 3φ, 3C, Black Oil-resistant PU	1000Hz
Operating Frequency	200Hz	1000Hz	
Tem range		-10~60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure class itication		IEC529 IP67 (NEMA6)	
Protection circuit	None	Power source reverse polarity; Surge suppression	
Current Drawing			

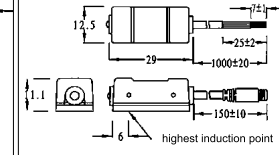
CS1-F Series



CS1-F, CS1-F-QD



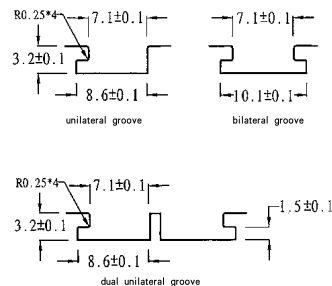
CS1-FP, CS1-FP-QD  
CS1-FN, CS1-FN-QD



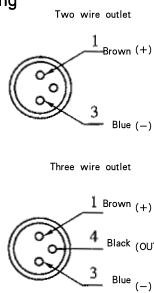
\* CS1-F Series used for; TGU, TGC, TGI

Specification	CS1-F	CS1-FN	CS1-FP
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-240V DC/AC	5-30V DC	
Switch current	100mA max.	200mA max.	
Contact rating	10W max.	6W max.	
Current consumption	None	20mA @ 24V max.	20mA @ 24V max.
Voltage drop	3.5V max.	0.5V max.	
Current leakage	None	0.01mA max.	
LED indicator	Green LED	Red LED	Green LED
Wire	4φ, 2C, Gray PVC	4.0φ, 3C, Black Oil-resistant PU	
Operating Frequency	200Hz	1000Hz	
Tem range		-10~60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure class itication		IEC529 IP67 (NEMA6)	
Protection circuit	None	Power source reverse polarity; Surge suppression	
Current Drawing			

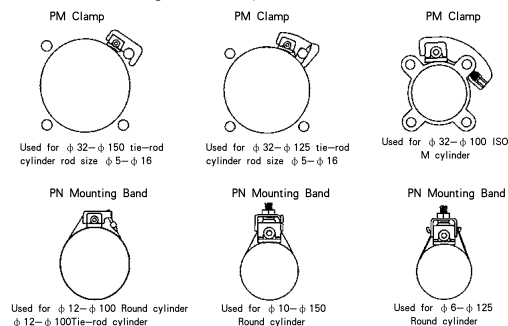
\*CS1-J Series groove size, installation means



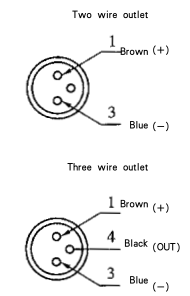
QD Pinout drawing



\*CS1-F Series groove size, installation means



QD Pinout drawing

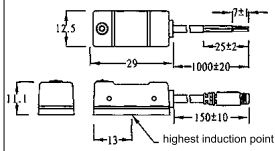


### Magnetic switch

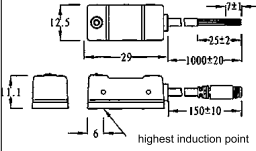
#### CS1-U Series



CS1-U, CS1-U-QD



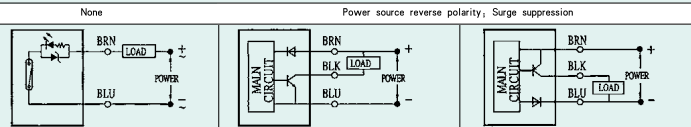
CS1-UP, CS1-UP-QD  
CS1-UN, CS1-UN-QD



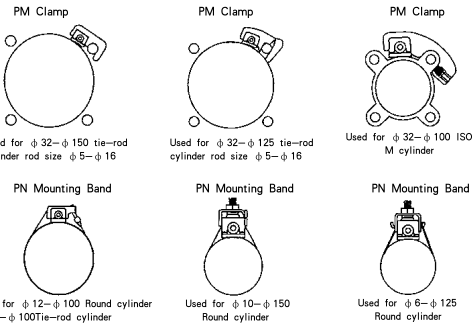
\* CS1-U Series used for: TGU, TGC, TGI

Specification	CS1-U	CS1-UN	CS1-UP
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-120V DC/AC	10-30V DC/AC	
Switch current	100mA max.	100mA max.	
Contact rating	10W max.	3W max.	
Current consumption	None	17mA @ 24V max.	14mA @ 24V max.
Voltage drop	3.0V max.	2.0V max.	
Current leakage	None	0.01mA max.	
LED indicator	Green LED	Red LED	Green LED
Wire	2.8φ, 2C, Gray PVC	3.0φ, 3C, Black Oil-resistant PU	
Operating Frequency	200Hz	1000Hz	
Tem range		-10-60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure class itication		IECS29 IP67 (NEMA6)	

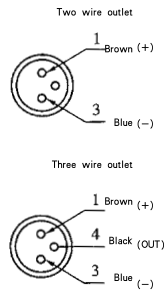
#### Current Drawing



#### \* CS1-U Series groove size, installation means



#### QD Pinout drawing

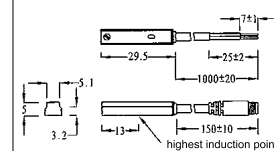


### Magnetic switch

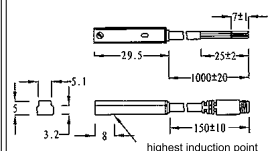
#### CS1-M Series



CS1-M, CS1-M-QD



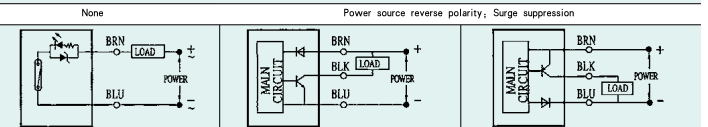
CS1-MP, CS1-MP-QD  
CS1-MN, CS1-MN-QD



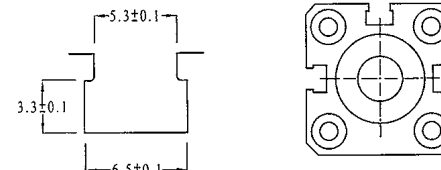
\* CS1-M Series used for: TGD

Specification	CS1-M	CS1-MN	CS1-MP
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-120V DC/AC	10-30V DC	
Switch current	100mA max.	100mA max.	
Contact rating	10W max.	3W max.	
Current consumption	None	17mA @ 24V max.	14mA @ 24V max.
Voltage drop	3.0V max.	2.0V max.	
Current leakage	None	0.01mA max.	
LED indicator	Red LED	Red LED	Yellow LED
Wire	2.8φ, 2C, Gray PVC	3.0φ, 3C, Black Oil-resistant PU	
Operating Frequency	200Hz	1000Hz	
Tem range		-10-60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure class itication		IECS29 IP67 (NEMA6)	

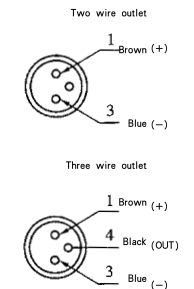
#### Current Drawing



#### \*CS1-M Series groove size, installation means Used for: SMC, FESTO

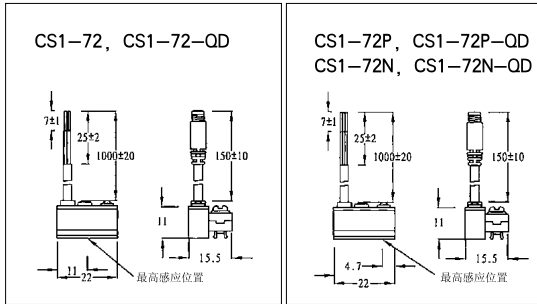


#### QD Pinout drawing



### Magnetic switch

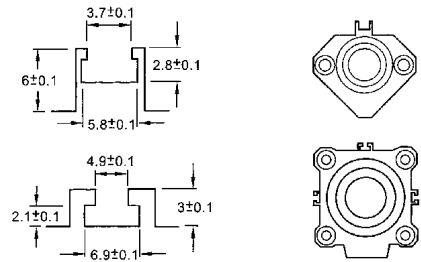
#### CS1-72 Series



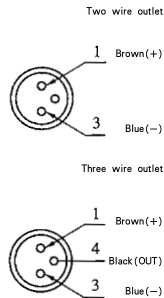
\* CS1-72 series used for: CQ2

Specification	CS1-72	CS1-72N	CS1-72P
Wire pattern	2-wire type	3-wire type	
Switching logic	SPST Normally open	Solidstate output Normally open	
Output	Magnetic reed contact	Contactless NPN	Contactless PNP transistor
Operating voltage	5-2400V DC/AC	5-30V DC	
Switch current	100mA max.	200mA max.	
Contact rating	10W max.	6W max.	
Current consumption	None	22mA @ 24V max.	20mA @ 24V max.
Voltage drop	3.5V max.	0.5V max.	
Current leakage	None	0.01mA max.	
LED indicator	Green LED	Red LED	Green LED
Wire	3, 3, 2C, Gray PVC	3, 3, 3C Black Oil-resistant PU	
Operating Frequency	200Hz	1000Hz	
Tem range		-10~60°C (No Freeze)	
Shock	30G	50G	
Vibration		9G	
Enclosure classification	IECS29 IP67 (NEMA6)		
Protection circuit	None	Power source reverse polarity; Surge suppression	
Current Drawing			

#### \*CS1-72 Series groove dimensional drawing Used to SMC

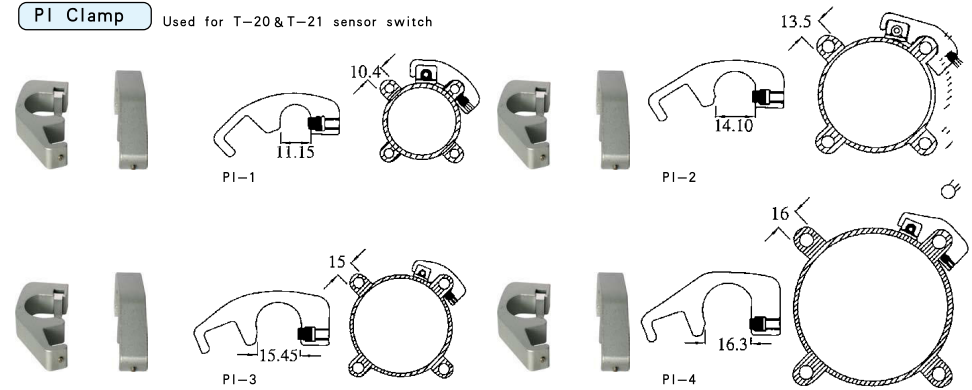


#### QD Pinout drawing



### Clamp

#### PI Clamp Used for T-20 & T-21 sensor switch

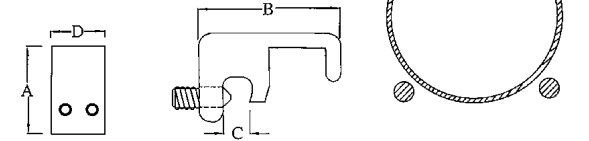


Suitable for:  $\phi 32$ - $\phi 100$  ISO profile cylinder

#### PI Clamp Used for T-20 & T-21 sensor switch

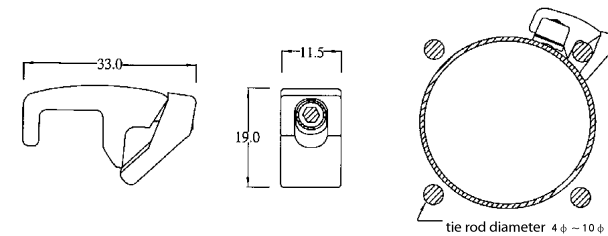


Size	Type	A	B	C	D
PM-6	19	31.0	6.5	12	
PM-6	20	34.5	8.0	12	
PM-6	18	33.0	10	12	
PM-6	20	35.5	12	12	
PM-6	24	40.0	16	12	



Suitable for:  $\phi 32$ - $\phi 100$  air, hydraulic cylinder (With tie-rod)

#### PI Clamp Used for T-20 & T-21 sensor switch



Suitable for:  $\phi 32$ - $\phi 100$  pole cylinder, air or hydraulic