AIRPRO™ 250

PNEUMATIC CYLINDER

- Adjustable Cushions
- Proximity Switch Capability
- Non-Rotating Rods Available
- Externally Removable Rod Bushing
- 15 Standard Mounting Styles

NON-ROTATING ROD

NFPA INTERCHANGEABLE

National FLUID POWER Association
MEMBER

250A series 1 PNEUMATIC CYLINDER

Designed to meet the needs of machine builders today, tomorrow, and beyond. Over fifty years of cylinder manufacturing experience has been built into this durable design.

PISTON ROD
High strength, case hardened steel. Hard-chrome plated and polished to resist scoring.

ROD BEARING
Precision machined from aluminum alloy then hard coat anodized for maximum life. Externally removable.

WIPER SEAL
Is designed to remove foreign material from the exposed rod, thus protecting the inner rod seal.

TUBE SEALS
N.B.R. coated stainless steel insures a positive seal throughout cylinder life.

HEAD/CAP
Precision machined from high strength aluminum alloy bar stock. Anodized for corrosion resistance.

TIE RODS
Corrosion resistant, stress proof steel maintains uniform compression throughout cylinder life.

WEAR RINGS (two)
Polyacetal material is designed for low friction, and to ensure maximum wear in side load applications.

PISTON (MAGNET STANDARD)
Aluminum alloy, clear-coat anodized to resist corrosion. Two piece construction allows for a solid magnet, ensuring that contact is made whenever the piston passes under the reed switch.

ROD & PISTON SEALS
Rounded lip u-cup, specifically designed to reduce friction for lube or non-lube applications.

TUBE
Aluminum alloy tube, hard coated I.D. to resist wear and corrosion.

CUSHIONS (STANDARD)
Precision machined cushion spuds combined with captured lip seal provide smooth deceleration at end of stroke.

CUSHION NEEDLE
Captive adjustment screws have fine thread adjustment and are recessed in head and cap.

250A-1

CYLINDER SPECIFICATIONS

Rod style	Round rod		Non-Rotating Rod	
Type	Basic	Switch set	Basic	Switch set
Cylinder bore	1½" • 2" • 2½" • 3¼" • 4" • 5" • 6"			
Working fluid	Air			
Lubrication	Not necessary (Prelubricated for extended life)			
Operating pressure range	15 — 250 psig (0.1~1.75 MPa)			
Speed range (※1)	2~25inch/sec		2~20inch/sec	
Temperature range	14~158°F (−10~+70°C) at non-freezing condition			
Structure of cushioning	Both ends cushioned (Standard)			
Tolerance of rotation angle	———		2", 2½": ±1°, 3¼", 4", 5": ±.5°	
Max. allowable torque (lb·in)	———		2", 2½": 8.7lb·in, 3¼", 4", 5": 85lb·in	
Tolerance of stroke	Bore 1½"·2": 20"max.$^{+.08}_{-.11}$ 20"min.$^{+.12}_{-.00}$ Bore 2½"·3¼"·4"·5": 20"max.$^{+.10}_{-.00}$ 20"min.$^{+.15}_{-.00}$			
Mounting type	SD • TS(MS4) • FA(MF1) • LA(MS2) • LB(MS1) • LE(MS7) • CB(MP1) • CD(MP2) • CC(MP4) • TC(MT4)* FB(MF2) • TA(MT1) • TB(MT2) • BX(MX1) • CX(MX2) • HX(MX3) ( )NFPA Mounting Code			
Accessories	Rod end attachments : Ttype(Rod end eye) Ytype(Rod end clevis)			

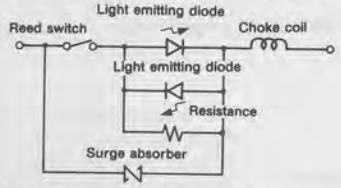
※1 When setting the switch at an intermediate position, keep cylinder's maximum speed must be under 10inch/sec. for detection.

MAGNETIC PROXIMITY SWITCH SPECIFICATIONS

Code					
With DIN connector		SR100	SR200	SR300	SR400
With lead wire (5ft.)		SR101	SR201	SR301	SR401
With lead wire (16ft.)		SR105	SR205	SR305	SR405
Voltage range		DC5~50V		AC80~220V	
Current range	60°C max.	6~30mA	25~50mA	0~20mA	2~300mA
	70°C	6~25mA	25~40mA		
Max contact capacity		1.5W		2VA	30VA
Leakage current		0		1mA max.	
Actuating time		1msec max.		1msec max.	
Return time		1msec max.		1msec max.	11msec max.
Allowable shock		30G		30G	
Indicator lamp		LED (Lights with switch ON)		Neon tube (Lights with switch OFF)	
Applicable load		Ultra-miniature relay Sequencer	Miniature relay	Ultra-miniature relay Miniature relay	Ultra-miniature relay General use relay Sequencer Miniature solenoid Pilot lamp

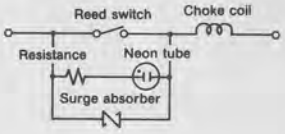
INNER CIRCUIT OF REED SWITCH

● SR100 · SR101 · SR105
● SR200 · SR201 · SR205 (DC)



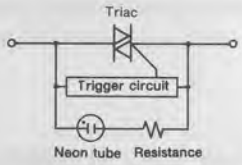
Lamp turns on when switching

● SR300 · SR301 · SR305 (AC)



Lamp turns on when un-switching

● SR400 · SR401 · SR405 (AC)



Lamp turns on when un-switching

BRACKET FOR MAGNETIC PROXIMITY SWITCH

Bore	Parts No.
150(1½")	BK-25
200(2") • 250(2½")	BK-31
325(3¼") • 400(4")	BK-38
500(5") • 600(6")	BK-50

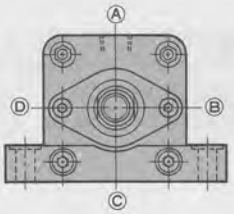
HOW TO ORDER

Rod End Style 1, 2, or 3 (see below) 4 (special)

250A-1 **SD 200 S 1 B 0500 - A B H 2**

Series

❶ ❷ ❸ Both ends cushioned ❹ Position of Ports ※ Position of cushion needles ※ ❺ ❻

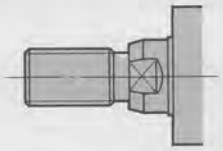


❶	Mounting type
	SD • TS(MS4) • LB(MS1) • LA(MS2) • LE(MS7) • FA(MF1) • FB(MF2) • CB(MP1) • CD(MP2) • CC(MP4) • TC(MT4) TA(MT1) • TB(MT2) • BX(MX1) • CX(MX2) • HX(MX3) ( ) NFPA Style
❷	Bore size
	150—1½" •200—2" •250—2½" •325—3¼" • 400—4" •500—5" • 600—6"
❸	Rod type
	type-S : indicates standard rod type. type-M : indicates oversize rod type. (150-1½" Bore size only available for cap side cushion without switch capability) type-G : indicates non - rotating rod type.
❹	Cylinder stroke (Hundreths of inch) *Stroke length must be indicated as 4 digits. First and second digit = stroke / inch ; third and fourth digit = stroke / hundredths of an inch. (Example 0325 : 3¼" stroke)
❺	Switch code A : SR300A B : SR301A E : SR101 F : SR201 G : SR301 H : SR401 J : SR100 K : SR200 L : SR300 M : SR400 Blank : Without switch P : SR105 Q : SR205 R : SR305 S : SR405 (Refer to page 3)
❻	Number of switches

※ Standard position of Port is Ⓐ while that of cushion valve is Ⓑ
※ The position symbol of port and cushion valve are clockwise from rod side view.

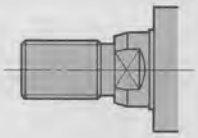
ROD END STYLES

STYLE 1 (NFPA : style SM)



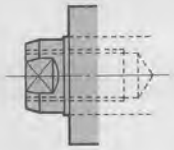
STANDARD

STYLE 2 (NFPA style IM)



OPTIONAL

STYLE 3 (NFPA style SF)



OPTIONAL

ACCESSORIES

- Rod end eye type T
- Rod end clevis type Y

Bore / Rod dia / Rod end	Part No.												
	150(1½")		200(2")		250(2½")		325(3¼")		400(4")		500(5")		600(6")
	S	M	S-G	M	S-G	M	S-G	M	S-G	M	S-G	M	S
TYPE T	T-1	T-2	T-1	T-2	T-1	T-2	T-2	T-3	T-2	T-3	T-2	T-3	T-3
TYPE Y	Y-1	Y-2	Y-1	Y-2	Y-1	Y-2	Y-2	Y-3	Y-2	Y-3	Y-2	Y-3	Y-3

MAXIMUM ALLOWABLE STROKE

Unit : inch

Bore	Round Rod	Non-rotating rod
1½	40	20
2	50	30
2½	60	30
3¼	70	40
4	75	40
5	75	40
6	75	N/A

*Longer strokes available. Consult Factory.

MINIMUM STROKE OF CYLINDER WITH SWITCH

Unit : inch

Bore	Minimum Stroke
1½	1
2	1
2½	1
3¼	1
4	1
5	1
6	1

WEIGHT TABLES

Unit : Lbs

Bore (inch)	Basic weight			Mounting accessory weight							Switch weight (1pcs.)	Additional weight per 1 inch of stroke		
	S rod	M rod	G rod	LB (MS1)	LA (MS2)	LE (MS7)	FA(MF1) FB(MF-2)	CB (MP1)	CD (MP2)	CC (MP4)		S rod	M rod	G rod
1½	1.52	–	–	0.49	0.90	0.44	0.51	0.60	0.71	0.84		0.19	–	–
2	2.36	2.78	2.34	0.62	1.17	0.71	0.77	0.86	0.97	1.10		0.23	0.23	0.22
2½	3.28	3.70	3.26	0.73	1.41	1.17	1.04	1.06	1.17	1.48		0.25	0.38	0.24
3¼	6.94	7.72	6.88	1.10	3.35	1.74	2.29	2.03	2.36	3.88	0.26	0.48	0.67	0.45
4	9.19	9.96	9.08	1.26	4.14	2.47	3.62	2.73	3.09	4.50		0.50	0.70	0.48
5	15.17	15.94	15.08	2.29	7.89	4.23	6.06	4.28	4.85	5.29		0.64	0.84	0.62
6	23.5	–	–	5.5	12.0	6.5	10.0	10.0	12.5	10.5		0.9	–	–

Calculation formula:
Cylinder weight = Basic weight + (switch weight) + Mounting accessory weight + (additional weight per 1 inch of stroke X Cylinder stroke inch)

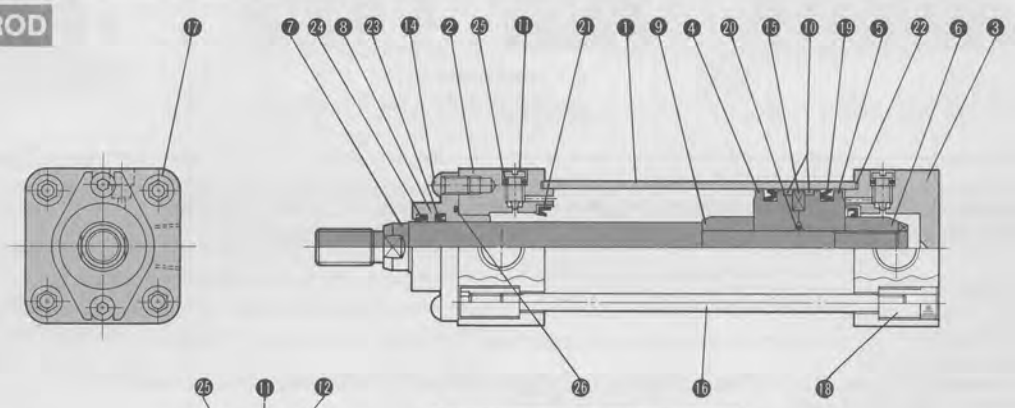
Calculation example:
Round rod fundamental cylinder 3 switches with wire, LB mounting Bore 2½ inches, stroke 5 inches 2.89 + (0.26x3) + 0.73 + (0.248x5) = 5.64 Lbs.

250A-1

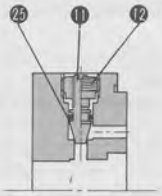
CONSTRUCTION / PARTS LIST

ROUND ROD

• 1½"-6"

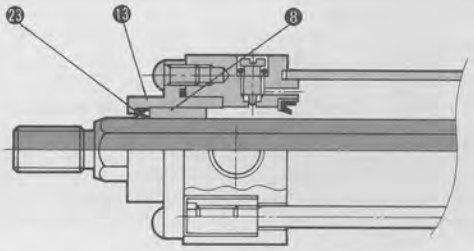


Cushion valve
Bore : 2½",3¼",4",5"



NON-ROTATING ROD

• 1½"-5"



Rod section

NOTE: Six Inch Bore Piston Design Not As Shown Above.

PARTS LIST

No.	Name	Material	Q'ty
❶	Cylinder body	Aluminum alloy	1
❷	Head cover	Aluminum alloy	1
❸	End cap	Aluminum alloy	1
❹	Piston	Aluminum alloy	1
❺	Piston	Aluminum alloy	1
❻	Piston nut	Carbon steel	1
❼	Piston rod	Carbon steel	1
❽	Rod bushing	Aluminum alloy	1
❾	Cushion ring	Carbon steel	1

No.	Name	Material	Q'ty
❿	Wear ring	Polyacetal resin	2
⓫	Cushion needles	Chromium-Molybdenum steel	2
⓬	Cushion plug	Chromium-Molybdenum steel	2
⓭	Seal housing	Aluminum alloy	1
⓮	Rod bushing bolt	Chromium-Molybdenum steel	2
⓯	Magnet	——	1
⓰	Tie rod	Carbon steel	4
⓱	Tie rod nut A	Chromium-Molybdenum steel	4
⓲	Tie rod nut B	Carbon steel	4

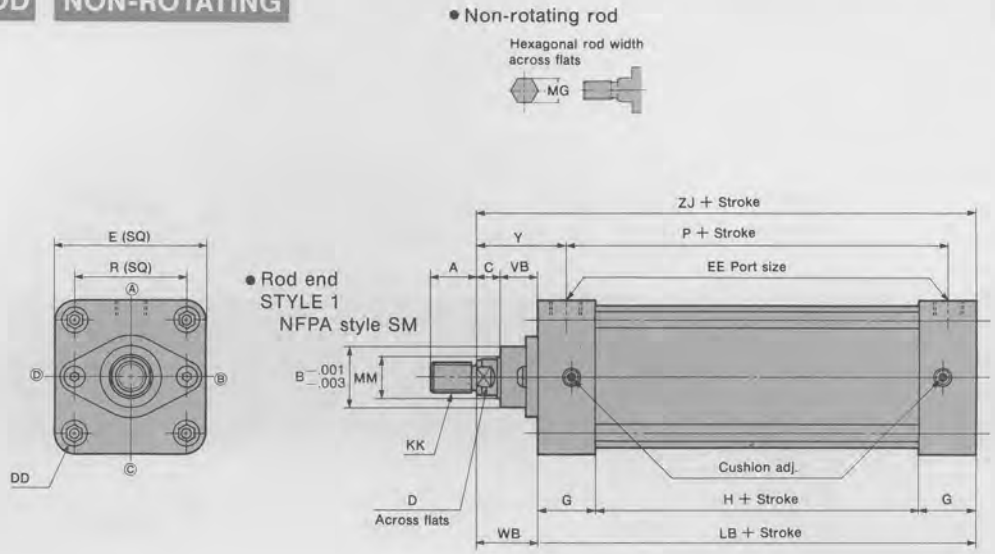
SEALS LIST

Name / Rod style / Material / Bore (inch)	⓳ Piston seal	⓴ Piston rod Oring		㉑ Cushion seal	㉒ End Seal	㉓ Rod seal			㉔ Wiper seal		㉕ Cushion needle Oring	㉖ Rod bushing Oring
		S-G	M			S	M	G	S	M		
	Nitrile rubber	Nitrile rubber	Nitrile rubber	Canned nitrile rubber	Canned nitrile rubber	Nitrile rubber	Nitrile rubber	Polyurethane rubber	Nitrile rubber	Nitrile rubber	Nitrile rubber	Nitrile rubber
1½	XU-1⅜	AN6227-9	—	CS-20	TW-1.5	XU-⅜	—	—	XD-⅜	—	AN6227-3	MS28775-021
2	XU-1⅝	AN6227-9	AN6227-14	CS-30	TW-2	XU-⅜	XU-1	PGR-14A	XD-⅜	XD-1	AN6227-3	MS28775-027
2½	XU-2⅛	AN6227-9	AN6227-14	CS-30	TW-2.5	XU-⅜	XU-1	PGR-14A	XD-⅜	XD-1	AN6227-3	MS28775-027
3¼	XU-2¹³⁄₁₆	AN6227-14	AN6227-19	CS-40	TW-3.25	XU-1	XU-1⅜	PGR-23	XD-1	XD-1⅜	AN6227-3	MS28775-032
4	XU-3½	AN6227-14	AN6227-19	CS-40	TW-4	XU-1	XU-1⅜	PGR-23	XD-1	XD1⅜	AN6227-3	MS28775-032
5	XU-4½	AN6227-14	AN6227-19	CS-40	TW-5	XU-1	XU-1⅜	PGR-23	XD-1	XD-1⅜	AN6227-3	MS28775-032
6	DXP-150	AN6227-19	—	CS-40	"O-Ring" TO-6	XU-1⅜	—	—	XD-1⅜	—	AN6227-3	MS28775-032

DIMENSIONS / SD TYPE (BASIC)

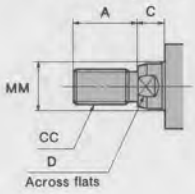
Unit : inch

ROUND ROD **NON-ROTATING**

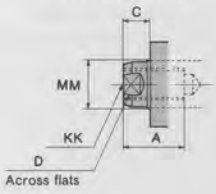


ROD END STYLE (OPTIONAL)

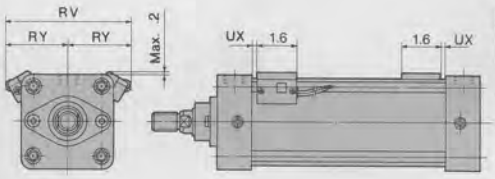
STYLE 2
NFPA style IM



STYLE 3
NFPA style SF



SWITCH SET CYLINDER



DIMENSIONS

Bore	RV	RY	UX
1½	3.2	1.6	.16
2	3.8	1.9	.16
2½	4.2	2.1	.22
3¼	4.8	2.4	.16
4	5.4	2.7	.16
5	6.2	3.1	.28
6	7.2	3.6	.28

DIMENSIONAL TABLE

Unit : inch

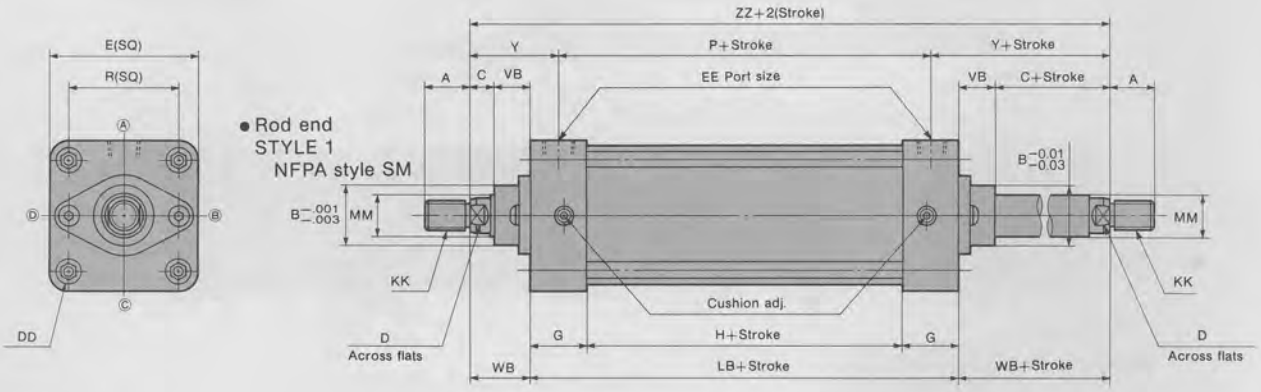
BORE SIZE	ROD DIA MM		A	B	C	D	DD	E	EE (NPTF	G	H	ROD END STYLE 1 KK	ROD END STYLE 2 CC	ROD END STYLE 3 KK	LB	MG	P	R	VB	WB	Y	ZJ
1½	S	⅝	¾	1.125	⅜	½	¼-28	2	⅜-18	1.102	1.421	7/16-20	½-20	7/16-20	3⅝	—	2.52	1.43	⅝	1	1.55	4⅝
2	S	⅝	¾	1.125	⅜	½	5/16-24	2½	⅜-18	1.102	1.421	7/16-20	½-20	7/16-20	3⅝	.551	2.52	1.84	⅝	1	1.55	4⅝
	M	1	1⅛	1.500	½	⅞	5/16-24	2½	⅜-18	1.102	1.421	¾-16	⅞-14	¾-16	3⅝	—	2.52	1.84	⅞	1⅜	1.93	5
2½	S	⅝	¾	1.125	⅜	½	5/16-24	3	⅜-18	1.102	1.546	7/16-20	½-20	7/16-20	3¾	.551	2.65	2.19	⅝	1	1.55	4¾
	M	1	1⅛	1.500	½	⅞	5/16-24	3	⅜-18	1.102	1.546	¾-16	⅞-14	¾-16	3¾	—	2.65	2.19	⅞	1⅜	1.93	5⅛
3¼	S	1	1⅛	1.500	½	⅞	⅜-24	3¾	½-14	1.417	1.416	¾-16	⅞-14	¾-16	4¼	.906	2.92	2.76	⅞	1⅜	2.04	5⅝
	M	1⅜	1⅜	2.000	⅝	1⅛	⅜-24	3¾	½-14	1.417	1.416	1-14	1¼-12	1-14	4¼	—	2.92	2.76	1	1⅜	2.29	5⅞
4	S	1	1⅛	1.500	½	⅞	⅜-24	4½	½-14	1.417	1.416	¾-16	⅞-14	¾-16	4¼	.906	2.92	3.32	⅞	1⅜	2.04	5⅝
	M	1⅜	1⅜	2.000	⅝	1⅛	⅜-24	4½	½-14	1.417	1.416	1-14	1¼-12	1-14	4¼	—	2.92	3.32	1	1⅜	2.29	5⅞
5	S	1	1⅛	1.500	½	⅞	½-20	5½	½-14	1.417	1.666	¾-16	⅞-14	¾-16	4½	.906	3.17	4.10	⅞	1⅜	2.04	5⅞
	M	1⅜	1⅜	2.000	⅝	1⅛	½-20	5½	½-14	1.417	1.666	1-14	1¼-12	1-14	4½	—	3.17	4.10	1	1⅜	2.29	6⅛
6	S	1⅜	1⅜	2.000	⅝	1⅛	½-20	6½	¾-14	1.500	2.000	1-14	1¼-12	1-14	5	—	3.50	4.88	1	1⅜	2.375	6⅝

250A-1

DIMENSIONS / DOUBLE ROD CYLINDER 250A-IW

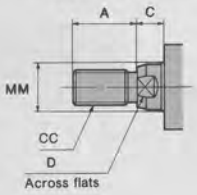
Unit : inch

ROUND ROD

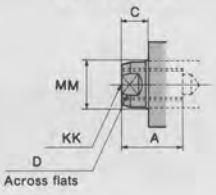


ROD END STYLE (OPTIONAL)

STYLE 2
NFPA style IM



STYLE 3
NFPA style SF



● Double Rod cylinders
available in mounting styles
SD, TS, LB, LA, LE, FA, FB, and TC.

DIMENSIONAL TABLE

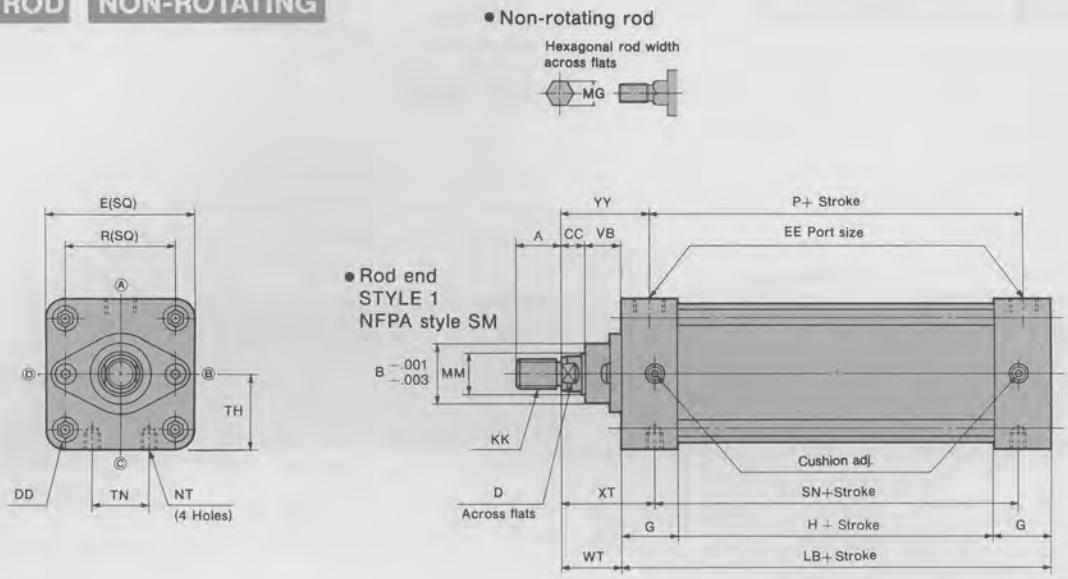
Unit : inch

BORE SIZE	ROD DIA MM		A	B	C	D	DD	E	EE (NPTF	G	H	ROD END STYLE 1 KK	ROD END STYLE 2 CC	ROD END STYLE 3 KK	LB	P	R	VB	WB	Y	ZZ
1½	S	⅝	¾	1.125	⅜	½	¼-28	2	⅜-18	1.102	1.421	7/16-20	½-20	7/16-20	3⅜	2.52	1.43	⅝	1	1.55	5⅝
2	S	⅝	¾	1.125	⅜	½	5/16-24	2½	⅜-18	1.102	1.421	7/16-20	½-20	7/16-20	3⅜	2.52	1.84	⅝	1	1.55	5⅝
	M	1	1⅛	1.500	½	⅞	5/16-24	2½	⅜-18	1.102	1.421	¾-16	⅞-14	¾-16	3⅜	2.52	1.84	⅞	1⅜	1.93	6⅜
2½	S	⅝	¾	1.125	⅜	½	5/16-24	3	⅜-18	1.102	1.546	7/16-20	½-20	7/16-20	3¾	2.65	2.19	⅝	1	1.55	5¾
	M	1	1⅛	1.500	½	⅞	5/16-24	3	⅜-18	1.102	1.546	¾-16	⅞-14	¾-16	3¾	2.65	2.19	⅞	1⅜	1.93	6½
3¼	S	1	1⅛	1.500	½	⅞	⅜-24	3¾	½-14	1.417	1.416	¾-16	⅞-14	¾-16	4¼	2.92	2.76	⅞	1⅜	2.04	7
	M	1⅜	1⅝	2.000	⅝	1⅛	⅜-24	3¾	½-14	1.417	1.416	1-14	1¼-12	1-14	4¼	2.92	2.76	1	1⅜	2.29	7½
4	S	1	1⅛	1.500	½	⅞	⅜-24	4½	½-14	1.417	1.416	¾-16	⅞-14	¾-16	4¼	2.92	3.32	⅞	1⅜	2.04	7
	M	1⅜	1⅝	2.000	⅝	1⅛	⅜-24	4½	½-14	1.417	1.416	1-14	1¼-12	1-14	4¼	2.92	3.32	1	1⅜	2.29	7½
5	S	1	1⅛	1.500	½	⅞	½-20	5½	½-14	1.417	1.666	¾-16	⅞-14	¾-16	4½	3.17	4.10	⅞	1⅜	2.04	7¼
	M	1⅜	1⅝	2.000	⅝	1⅛	½-20	5½	½-14	1.417	1.666	1-14	1¼-12	1-14	4½	3.17	4.10	1	1⅜	2.29	7¾
6	S	1⅜	1⅝	2.000	⅝	1⅛	½-20	6½	¾-14	1.500	2.000	1-14	1¼-12	1-14	5.00	3.50	4.88	1	1⅜	2.375	8¼

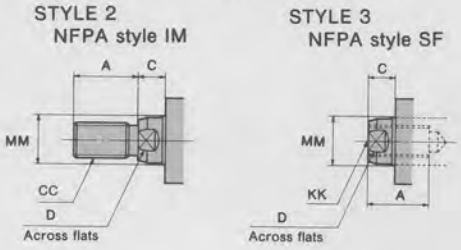
DIMENSIONS / TS TYPE (SIDE TAPPED MOUNTING) / NFPA-MS4

Unit : inch

ROUND ROD **NON-ROTATING**



ROD END STYLE (OPTIONAL)



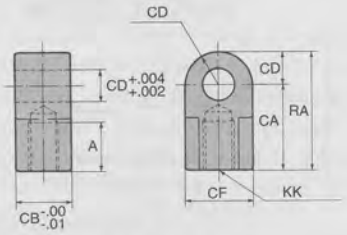
DIMENSIONAL TABLE

Unit : inch

BORE SIZE	ROD DIA MM		A	B	CC	D	DD	E	EE (NPTF	G	H	ROD END STYLE 1 KK	ROD END STYLE 2 CC	ROD END STYLE 3 KK	LB	MG	NT	P	R	SN	TH	TN	VB	WT	XT	YY
1½	S	⅝	¾	1.125	9/16	½	¼-28	2	⅜-18	1.102	1.421	7/16-20	½-20	7/16-20	3⅜	—	¼-20	2.52	1.43	2¼	1	⅝	⅝	1¼	1 15/16	1.80
2	S	⅝	¾	1.125	9/16	½	5/16-24	2½	⅜-18	1.102	1.421	7/16-20	½-20	7/16-20	3⅜	.551	5/16-18	2.52	1.84	2¼	1¼	⅞	⅝	1¼	1 15/16	1.80
	M	1	1⅛	1.500	1 1/16	⅞	5/16-24	2½	⅜-18	1.102	1.421	¾-16	⅞-14	¾-16	3⅜	—	5/16-18	2.52	1.84	2¼	1¼	⅞	⅞	1⅜	2 5/16	2.18
2½	S	⅝	¾	1.125	9/16	½	5/16-24	3	⅜-18	1.102	1.546	7/16-20	½-20	7/16-20	3¾	.551	⅜-16	2.65	2.19	2⅜	1½	1¼	⅝	1¼	1 15/16	1.80
	M	1	1⅛	1.500	1 1/16	⅞	5/16-24	3	⅜-18	1.102	1.546	¾-16	⅞-14	¾-16	3¾	—	⅜-16	2.65	2.19	2⅜	1½	1¼	⅞	1⅜	2 5/16	2.18
3¼	S	1	1⅛	1.500	49/64	⅞	⅜-24	3¾	½-14	1.417	1.416	¾-16	⅞-14	¾-16	4¼	.906	½-13	2.92	2.76	2⅜	1⅜	1½	⅞	1⅜	2 1/16	2.29
	M	1⅜	1⅝	2.000	57/64	1⅛	⅜-24	3¾	½-14	1.417	1.416	1-14	1¼-12	1-14	4¼	—	½-13	2.92	2.76	2⅜	1⅜	1½	1	1⅜	2 1/16	2.54
4	S	1	1⅛	1.500	49/64	⅞	⅜-24	4½	½-14	1.417	1.416	¾-16	⅞-14	¾-16	4¼	.906	½-13	2.92	3.32	2⅜	2¼	2 1/16	⅞	1⅜	2 1/16	2.29
	M	1⅜	1⅝	2.000	57/64	1⅛	⅜-24	4½	½-14	1.417	1.416	1-14	1¼-12	1-14	4¼	—	½-13	2.92	3.32	2⅜	2¼	2 1/16	1	1⅜	2 1/16	2.54
5	S	1	1⅛	1.500	49/64	⅞	½-20	5½	½-14	1.417	1.666	¾-16	⅞-14	¾-16	4½	.906	⅝-11	3.17	4.10	2⅞	2¾	2 11/16	⅞	1⅜	2 1/16	2.29
	M	1⅜	1⅝	2.000	57/64	1⅛	½-20	5½	½-14	1.417	1.666	1-14	1¼-12	1-14	4½	—	⅝-11	3.17	4.10	2⅞	2¾	2 11/16	1	1⅜	2 1/16	2.54
6	S	1⅜	1⅝	2.000	⅞	1⅛	½-20	6½	¾-14	1.500	2.000	1-14	1¼-12	1-14	5	—	¾-10	3.50	4.88	3¼	3¼	3¼	1	1⅜	2 3/16	2.63

ACCESSORIES

ROD END EYE (TYPE-T)



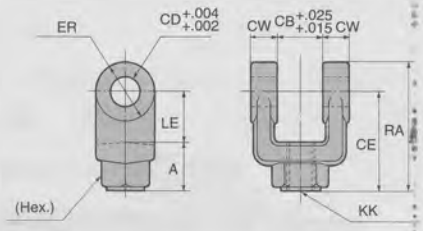
DIMENSIONAL TABLE

PART No.	A	CA	CB	CD	CF	ER	KK	RA
T-1	3/4	1 1/2	3/4	1/2	1	.63	7/16-20	2
T-2	1 1/8	2 1/16	1 1/4	3/4	1 1/2	.87	3/4-16	2 13/16
T-3	1 5/8	2 13/16	1 1/2	1	2	1.18	1-14	3 13/16

※ For Rod End Style 1.

ROD END CLEVIS (TYPE-Y)

Unit : inch

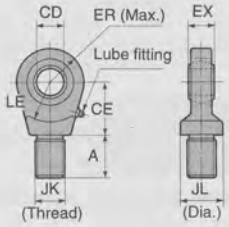


DIMENSIONAL TABLE

PART No.	A	CE	CB	CD	CW	ER	KK	LE	RA
Y-1	3/4	1 1/2	3/4	1/2	1/2	1/2	7/16-20	3/4	2
Y-2	1 1/8	2 3/8	1 1/4	3/4	5/8	3/4	3/4-16	1 1/4	3 1/8
Y-3	1 5/8	3 1/8	1 1/2	1	3/4	1	1-14	1 1/2	4 1/8

※ For Rod End Style 1.

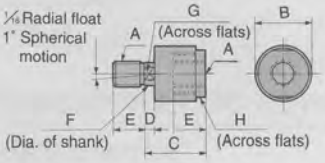
SPHERICAL ROD EYES



DIMENSIONAL TABLE

PART No.	A	CD	CE	ER	EX	JK	JL	LE
SR-500	1 1/16	.5000-.0005	7/8	7/8	7/16	7/16-20	7/8	3/4
SR-750	1	.7500-.0005	1 1/4	1 1/4	21/32	3/4-16	1 5/16	1 1/16
SR-1000	1 1/2	1.000-.0005	1 7/8	1 3/8	7/8	1-14	1 1/2	1 7/16

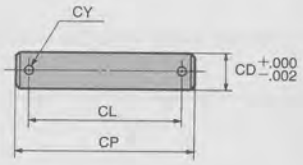
SELF-ALIGNING ROD END COUPLER



DIMENSIONAL TABLE

PART No.	THREAD A	B	C	D	E	F	G	H	MAX PULL AT YIELD
AC-437	7/16-20	1.25	2.00	0.50	0.75	0.62	0.50	1.00	10,000
AC-750	3/4-16	1.75	2.31	0.50	1.12	0.97	0.81	1.50	34,000
AC-1000	1-14	2.50	2.94	0.50	1.62	1.38	1.16	2.25	64,000

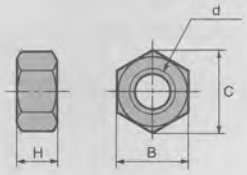
PIVOT PIN (Includes Cotter Pins)



DIMENSIONAL TABLE

PART No.	CD	CL	CP	CY
P-1	1/2	2	2 3/8	3/64
P-2	3/4	2 3/4	3 1/8	3/64
P-3	1	3 1/4	3 5/8	3/64

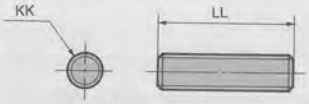
LOCK NUT



DIMENSIONAL TABLE

PART No.	d	B	C	H
LN-1	7/16-20	1 1/16	.79	1/4
LN-2	1/2-20	3/4	.87	5/16
LN-3	3/4-16	1 1/8	1.30	27/64

STUD BOLT



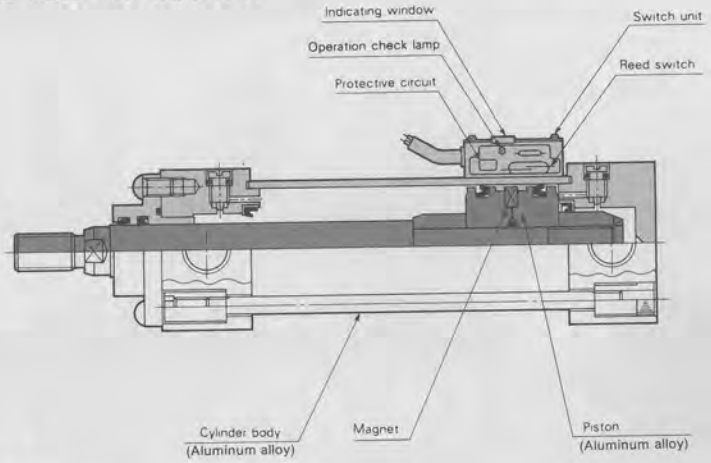
DIMENSIONAL TABLE

PART No.	KK	LL
SB-1	7/16-20	1 1/2
SB-2	3/4-16	2 1/4
SB-3	1-14	3 1/4

250A-1

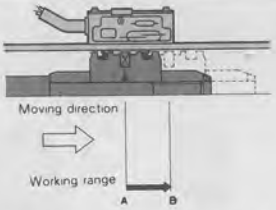
SWITCH SET OPERATION AND HANDLING (MAGNETIC PROXIMITY TYPE)

STRUCTURE AND OPERATION

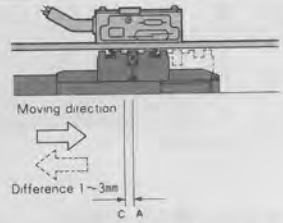


● DESCRIPTION

The magnetic proximity switches mounted on the cylinder body (aluminum tube) contain a reed switch, a protective circuit and an operation check lamp, all potted in plastic. The reed switch actuates when the magnet integrated in the piston passes below. This allows detection of the position of the cylinder piston.

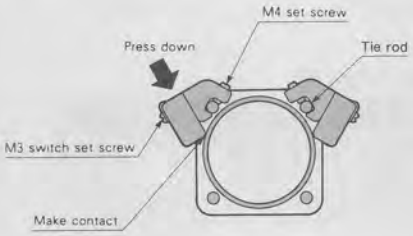


When the piston moves in the ⇨ direction and arrives at position Ⓐ, the reed switch actuates.
The switch remains on from Ⓐ to Ⓑ
This is called the working range.

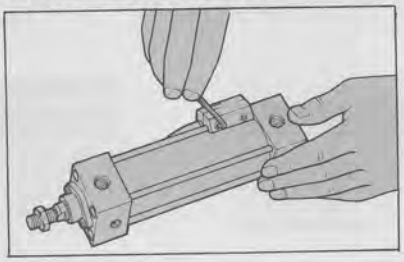


When the piston reaches position Ⓐ and then returns in the reverse direction ⇦, the switch remains on until the piston reaches Ⓒ. The interval between Ⓐ and Ⓒ is called the difference.

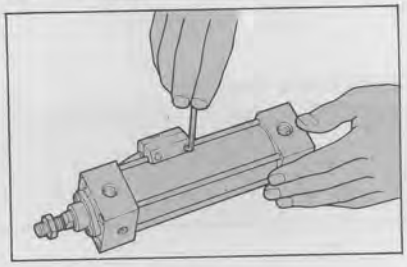
HOW TO SET SWITCH DETECTING POSITION AND TO CONFIRM OPERATION



BEFORE MOVEMENT

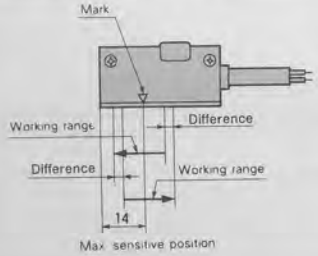


AFTER MOVEMENT



1. Slide switch on the tie rod after loosening two set screws with an Hexagon Wrench Keys 5/64″(2 mm).
2. At the desired position, gently press down on the top of the switch, hold the switch detection face against the cylinder body, and tighten the set screws.
3. The indicator lamp will go on (DC) or off (AC) when the switch actuates.
4. Switches can be mounted on any tie rod, at the position which best suits the cylinder installation space and the wiring method.

SWITCH SETTING POSITION



The point of maximum switch sensitivity (marked ▽) is 55″ (14mm) from the switch end. The switch goes on when the piston magnet enters the working range, whose center is this point. (The difference varies depending on the direction of piston movement.)