

ROUNDLINE ST. STEEL / ALUMINIUM SERIES CYLINDERS

- RCA / RCS - Double acting aluminium/ st. Steel barrel.**
- RCAS / RCSS - Single acting aluminium/ st. Steel barrel (push type).**
- RCAD / RCSD - Double ended aluminium/ st. Steel barrel.**
- RCAJ / RCSJ - Double ended adj. Stroke aluminium /st. Steel barrel.**

Airmatic



Application

Aluminium / st. Steel Barrel round line cylinders are available from 16mm to 40 mm bore sizes. They can be used in different automation applications requiring precision with economy & aesthetics. Different variations are available to suit individual needs.

Technical Specifications

Bore size (mm)		16	20	25	32	40
Action		Single Acting / Double Acting / Double ended				
Fluid		Compressed air (Filtered 25 micron)				
Mounting Type		Standard Neck mounting, Foot type, Flange type, Pivot clevis				
Working pressure range (Kgf/cm ²)	Single acting	2.0 ~ 9.0				
	Double acting	Optional 0.4 ~ 9				
	Double ended	1.0 ~ 9.0				
Max. Pressure (Kgf/cm ²)		13.5				
Temperature range °C		0 ~ 70				
Speed range mm/sec		30 ~ 800				
Cushioning	Standard	Bumper				
	Cushion	Adjustable cushion (st. Steel only)				
Port size (BSP)		M5 x 0.8	G1/8			* G1/4

* Only in aluminium

Cylinder size and std. stroke lengths

Bore size (mm)	Standard stroke	Maximum stroke			Available stroke		
		Single acting	Double acting	Double ended	Single acting	Double acting	Double ended
16	25 50 75 80 100 125 150 160 175 200	-	300	-	-	500	-
20	25 50 75 80 100 125 150 160 175 200 250 300	100	500	200	150	600	300
25	25 50 80 100 125 150 160 175 200 250 300 350 400	100	500	250	150	600	300
32	25 50 80 100 125 150 160 175 200 250 300 350 400	100	500	250	150	600	300
40	25 50 80 100 125 150 160 175 200 250 300 350 400	100	500	250	150	600	300

Material Specifications

Barrel	Aluminium \ St. steel
Piston / End caps	Aluminium
Piston rod	High carbon steel hard chrome plated
Gasket, 'O' rings & Cushion pad	NBR
Rod bush	Copper
Magnet	Synthetic
Wear ring	POM

NOTE :

1. Stroke Tolerance 0,+1.
2. Consult us for non - standard stroke and special piston rod.
3. When the stroke exceed the max. Stroke, min. operating pr. is 2 Kg/cm².
4. For higher temp. Above 70°C consult us for special design.

Model Ordering Code Instruction

RCA - C - CM - 25 X 50 - - LB - F - S - *

Design
Blank - Non cushioned
C - Cushioned

Types
RCA/RCS - Double acting
RCAS/RCSS - Single acting
RCAD/RCSD - Double ended
RCAJ/RCSJ - Double ended adj stroke

End cover type :
Blank - Pivot type.
U - Flat end type.
CM - Round end type.

Bore x Stroke.
Blank-Std.
Stroke Adj.- for RCAJ
RCSJ

Mounting type :
Blank - Basic.
LB - Foot mtg.
FA - Front Flange.
SDB - Pivot type with bracket.

Sensing type :
Blank - without magnet.
S - with magnet

Piston Rod Joint type :
I - I Knuckle
Y - Y Knuckle
F - Floating joint
U - Universal joint

* For sensor switch and band please refer page 6

ROUNDLINE CYLINDER - Double Acting RCA \ RCS Aluminium \ st. steel

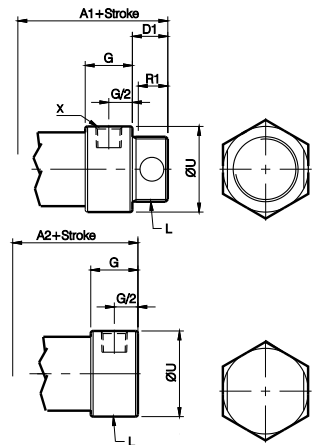
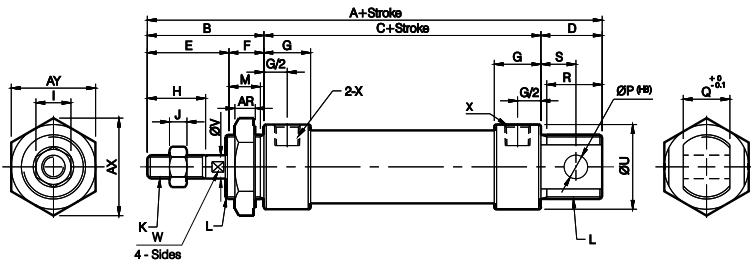
Dimensions of Basic Type

Ø16 - Ø40

PIVOT TYPE

ROUND END TYPE

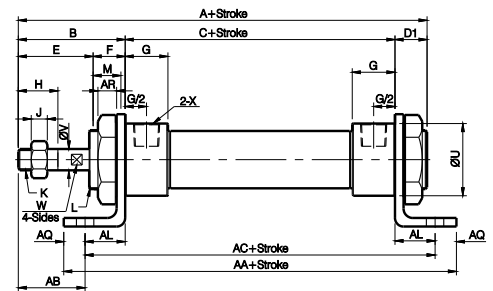
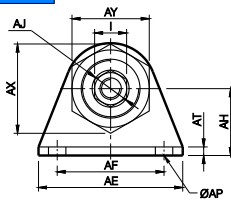
FLAT END TYPE



ITEM BORE SIZE (MM)	A		A1		A2	B	C		D	D1	E	F	G	H	I	J	K	L	M	P	Q	R	R1	S	U		V	W	X	AR	AX	AY
	RCA	RCS	RCA	RCS			RCA	RCS																	RCA	RCS						
16	-	114	-	98	-	38	-	60	16	-	22	16	10	16	10	5	M6x1	M16x1.5	14	6	12	14	-	9	-	21	6	5	M5	6	25	23
20	131	137	122	116	110	40	70	76	21	12	28	12	16	20	12	6	M8x1.25	M22x1.5	10	8	16	19	12	12	29	27	8	6	G1/8	7	33	29
25	135	141	128	120	114	44	70	76	21	14	30	14	16	22	17	6	M10x1.25	M22x1.5	12	8	16	19	14	12	34	30	10	8	G1/8	7	33	29
32	141	147	128	120	114	44	70	76	27	14	30	14	16	22	17	6	M10x1.25	M24x2.0	12	10	16	25	14	15	39.5	35	12	10	G1/8	8	37	32
40	165	149	152	122	138	46	92	76	27	14	32	14	16.7	24	19	7	M12x1.25	M30x2.0	12	12	20	25	14	15	49.5	41.6	16	14	G1/4	9	47	41

Dimensions of Foot Mounting Type (LB)

Ø16 - Ø40



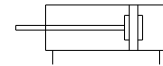
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16	122	38	70	12	28	12	16	20	13	5	M8 X 1.25	M22 X 1.5	10	30	8	6	G1/8
20	122	40	70	12	28	12	16	20	13	5	M8 X 1.25	M22 X 1.5	10	30	8	6	G1/8
25	128	44	70	14	30	14	16	22	17	6	M10 X 1.25	M22 X 1.5	12	34	10	8	G1/8
32	128	44	70	14	30	14	16	22	17	6	M10 X 1.25	M24 X 2.0	12	39	12	10	G1/8
40	152	46	92	14	32	14	22	24	19	7	M12 X 1.25	M30 X 2.0	12	49	16	14	G1/4

ITEM BORE SIZE (MM)	AA				AB	AC				AE	AF	AH	AJ	AL	AP	AQ	AR	AT	AX	AY
	RCA	RCAS	RCS	RCSS (51-100)		RCA	RCAS	RCS	RCSS (51-100)											
16	-	-	98	123	25	-	-	86	111	44	32	20	17	13	5.5	6	7	3.2	33	29
20	116	141	122	147	25	100	125	106	131	54	40	25	17	15	6.5	8	7	3.2	33	29
25	116	141	122	147	29	100	125	106	131	54	40	25	17	15	6.5	8	7	3.2	33	29
32	136	161	142	167	19	120	145	126	151	59	45	32	19	25	6.5	8	8	4	37	32
40	158	183	142	167	21	142	167	126	151	64	50	36	23	25	6.5	8	9	4.5	47	41

Model Ordering Code Instruction

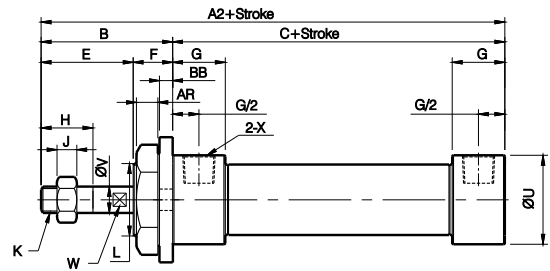
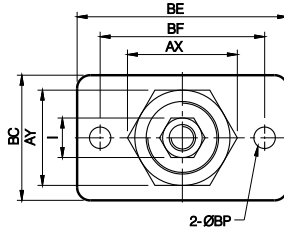
RCA	-	LB	-	25
↓		↓		↓
CYLINDER MODEL		ACCESSORIES TYPE		BORE SIZE
RCA / RCS		LB - Foot mounting		Ø16
RCAS / RCSS		FA - Flange mounting		Ø20
RCAD / RCSD		SDB - Clevis mounting		Ø25
RCAJ / RCSJ				Ø32
				Ø40

ROUNDLINE CYLINDER - Double Acting RCA \ RCS Aluminium \ st. steel

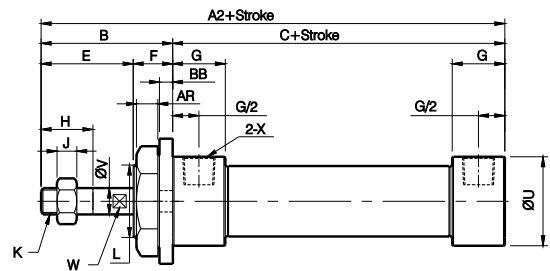
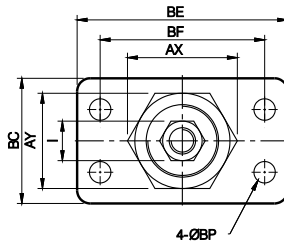


Dimensions of Flange Mouting Type (FA)

Ø16 - Ø25



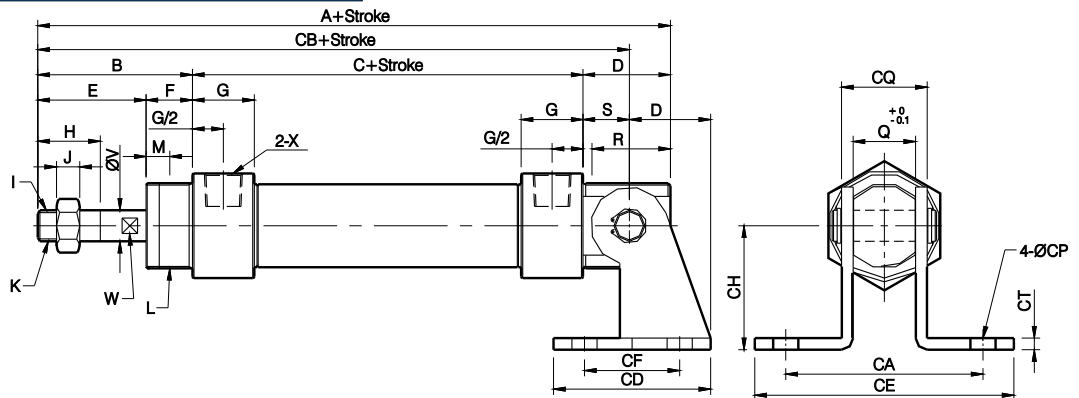
Ø32 - Ø40



ITEM BORE SIZE (MM)	A2	B	C	E	F	G	H	I	J	K	L	M	U	V	W	X	AR	AX	AY	BB	BC	BD	BE	BF	BP
16	-	38	60	-	16	16	20	13	5	M8x1.25	M22x1.5	10	30	8	6	G1/8	7	33	29	3.2	26	-	52	40	5.5
20	110	40	76	28	12	16	20	13	5	M8x1.25	M22x1.5	10	30	8	6	G1/8	7	33	29	4	38	-	64	50	6.5
25	114	44	76	30	14	16	22	17	6	M10x1.25	M22x2.0	12	34	10	8	G1/8	7	33	29	4	38	-	64	50	6.5
32	114	44	76	30	14	16	22	17	6	M10x1.25	M24x2.0	12	39	12	10	G1/8	8	37	32	4	47	33	72	58	6.5
40	138	46	76	32	14	22	24	19	7	M12x1.25	M30x2.0	12	49	16	14	G1/4	9	47	41	4	50	36	84	70	6.5

Dimensions of Clevis Mouting Type (SDB)

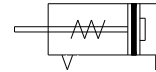
Ø16 - Ø40



ITEM BORE SIZE (MM)	A	B	C	D	E	F	G	H	I	J	K	L	M	Q	R	S	U	V	W	X
16	131	40	70	16	28	12	16	20	13	5	M8x1.25	M22x1.5	10	12	19	9	30	8	6	G1/8
20	131	40	70	21	28	12	16	20	13	5	M8x1.25	M22x1.5	10	16	19	12	30	8	6	G1/8
25	135	44	70	21	30	14	16	22	17	6	M10x1.25	M22x1.5	12	16	19	12	34	10	8	G1/8
32	141	44	70	27	30	14	16	22	17	6	M10x1.25	M24x2.0	12	16	25	15	39	12	8	G1/8
40	165	46	92	27	32	14	22	24	19	7	M12x1.25	M30x2.0	12	20	25	15	49	16	14	G1/4

BORE SIZE (MM)	ITEM	CA	CB	CD	CE	CF	CH	CP	CQ	CT
16		-	107	23	-	12	20	5.5	16.5	2.3
20		51	122	48	67	32	32	6.5	22	3
25		51	126	48	67	32	32	6.5	22	3
32		51	129	52	67	36	36	6.5	24	4
40		55	153	56	71	40	40	6.5	28	4

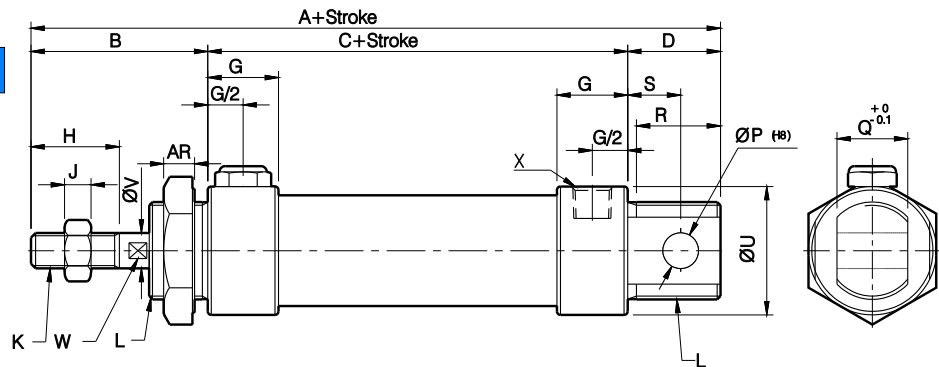
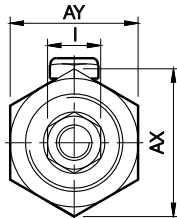
ROUNDLINE CYLINDER - Single Acting RCSA \ RCSS Aluminium \ st. steel



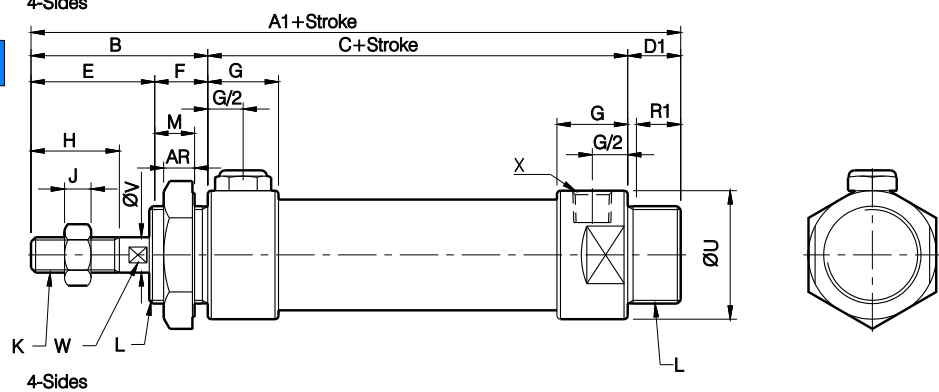
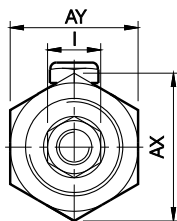
Dimensions

Ø16 - Ø40

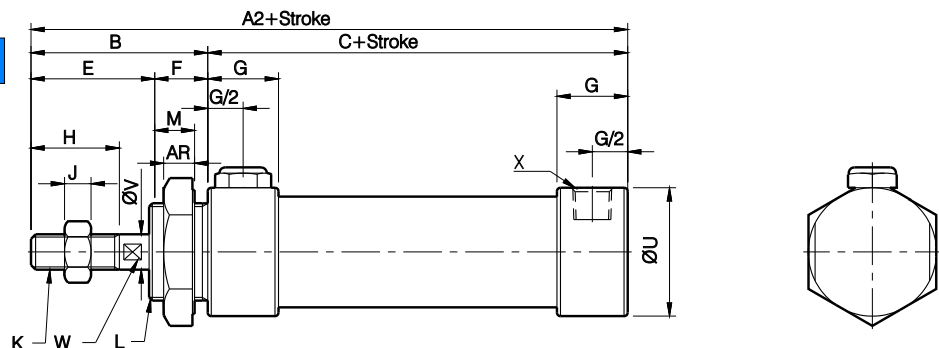
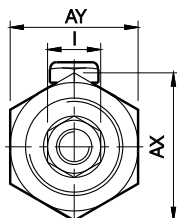
PIVOT TYPE



ROUND END TYPE (CM)



FLAT END TYPE (U)



ITEM BORE SIZE (MM)	A				A1				A2		B	C		D	D1	E	F	G	H
	RCA		RCS		RCA		RCS					0~50	51~100						
	0~50	51~100	0~50	51~100	0~50	51~100	0~50	51~100	0~50	51~100									
16	131	156	114	139	122	147	98	123	110	135	38	70	95	16	12	22	16	10	16
20	131	156	137	162	122	147	116	141	110	135	40	70	95	21	12	28	12	16	20
25	135	160	141	166	128	153	120	145	114	139	44	70	95	21	14	30	14	16	22
32	141	166	147	172	128	153	120	145	114	139	44	70	95	27	14	30	14	16	22
40	165	190	149	174	152	177	122	147	138	163	46	92	117	27	14	32	14	16.7	24

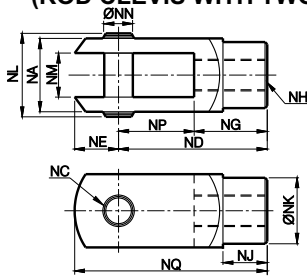
ITEM BORE SIZE (MM)	I	J	K	L	M	P	Q	R	R1	S	U		V	W	X	AR	AX	AY
											RCA	RCS						
16	10	5	M6 X 1	M16 X 1.5	14	6	12	14	-	9	-	21	6	5	M5 X 0.8	6	25	22
20	12	6	M8 X 1.25	M22 X 1.5	10	8	16	19	12	12	29	27	8	6	G 1/8	7	33	29
25	17	6	M10 X 1.25	M22 X 1.5	12	8	16	19	14	12	34	30	10	8	G 1/8	7	33	29
32	17	6	M10 X 1.25	M24 X 2.0	12	10	16	25	14	15	39.5	35	12	10	G 1/8	8	37	32
40	17	7	M12 X 1.25	M30 X 2.0	12	12	20	25	14	15	49.5	41.6	16	14	G 1/4	9	47	41

ROUNDLINE CYLINDER - ST. STEEL / ALUMINIUM SERIES

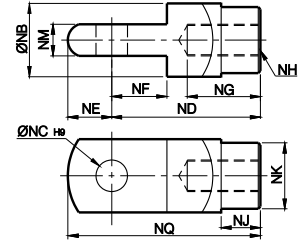
Accessories Dimensions

Ø20 - Ø40

Y-KNUCKLE (Y) (ROD CLEVIS WITH TWO YOKE)

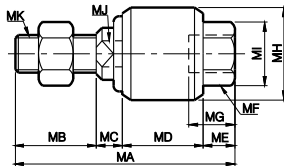


I-KNUCKLE (I) (ROD CLEVIS WITH ONE YOKE)



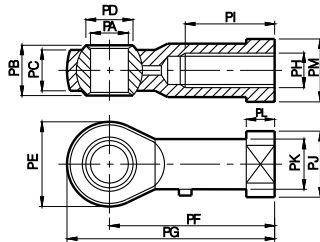
BORE SIZE (MM)	ITEM	NA	NB	NC	ND	NE	NF	NG	NH	NJ	NK	NL	NM	NN	NP	NQ
16	-	12	5	21	7	8.5	12	M6 x 1	-	12	18	6	5	8.5	28	
20	16	16	8	30	14	11	15	M8 x 1.25	10	16	22	8	8	15	40	
25 & 32	19	20	10	40	18	13	20	M10 x 1.25	12	20	25	10	10	20	52	
40	25.4	25	10	45	23	15	25	M12 x 1.25	15	25	31	14	10	20	57	

FLOATING JOINT (F)



ITEM	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK
BORE SIZE (MM)											
20	51	20	6	17	8	M8 x 1.25	12	24	13	8	M8 x 1.25
25 & 32	58	22	7	21	8	M10 x 1.25	12	26	17	10	M10 x 1.25
40	58	22	8	21	7	M12 x 1.25	12	28	19	12	M12 x 1.25

UNIVERSAL JOINT (U)



ITEM	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM
BORE SIZE (MM)													
20	8	12	9	10.4	22	36	47	M8 x 1.25	17	16	12.5	5	14
25 & 32	10	14	11	12.9	26	43	56	M10 x 1.25	21	19	15	6.5	17
40	12	16	12	15.4	30	50	65	M12 x 1.25	24	22	17.5	6.5	19

Criteria for selection : Cylinder Thrust

$$F \text{ (Cylinder Thrust Kgf)} = P \text{ (Pressure Kg/cm}^2\text{)} \times A \text{ (Piston area cm}^2\text{)}$$

Bore size(mm)	16		20				25				32				40				50		63			
	Rod size(mm)		6		8				10				12				16				16		16	
Acting type	Single		Double		Single		Double		Single		Double		Single		Double		Single		Double		Double		Double	
	Push Side	Push Side	Push Side	Pull Side	Push side AL.	Push side S.S.	Push Side	Pull Side	Push side AL.	Push side S.S.	Push Side	Pull Side	Push side AL.	Push side S.S.	Push Side	Pull Side	Push Side	Pull Side	Push Side	Pull Side	Push Side	Pull Side	Push Side	Pull Side
Pressure area (cm ²)	2.01	2.01	1.81	3.14	3.14	3.14	2.64	4.90	4.90	4.90	4.12	8.04	8.04	8.04	6.90	12.56	12.56	12.56	10.55	19.63	17.62	31.16	29.15	
Operating Pressure Kgf/cm ²	1	-	2.01	1.81	-	-	3.14	2.64	-	-	4.90	4.12	-	-	8.04	6.90	3.75	-	12.56	10.55	19.63	17.62	31.16	29.15
	2	-	4.02	3.62	1.26	1.57	6.28	5.28	2.91	2.45	9.80	8.24	7.66	4.02	16.08	13.80	16.31	6.28	25.12	21.10	39.26	35.24	48.78	60.31
	3	2.01	6.03	5.43	4.40	4.71	9.42	7.92	7.81	7.35	14.70	12.36	15.70	12.06	24.12	20.70	28.87	18.84	37.68	31.65	58.89	52.86	79.94	89.46
	4	4.02	8.04	7.24	7.54	7.85	12.56	10.56	12.71	12.25	19.60	16.48	23.74	20.10	32.16	27.60	41.43	31.40	50.24	42.20	78.52	70.48	111.10	118.61
	5	6.03	10.05	9.05	10.68	10.99	15.70	13.20	17.61	17.15	24.50	20.60	31.78	28.14	40.20	34.50	53.99	43.96	62.80	52.75	98.15	88.10	142.26	147.76
	6	8.04	12.06	10.86	13.82	14.13	18.84	15.84	22.51	22.05	29.40	24.72	39.82	36.18	48.24	41.40	66.55	56.52	75.36	63.30	117.78	105.72	173.42	176.91
	7	10.04	14.07	12.67	16.96	17.27	21.98	18.48	27.41	26.95	34.30	28.84	47.86	44.22	56.28	48.30	79.11	69.08	87.92	73.85	137.41	123.34	204.58	206.06
	8	-	-	-	20.10	20.41	25.12	21.12	32.31	31.85	39.20	32.96	55.90	52.26	64.32	55.20	91.67	81.64	100.48	84.40	157.04	140.96	235.74	235.21
	9	-	-	-	23.24	23.55	28.26	23.76	37.21	36.75	44.10	37.08	63.94	60.30	72.36	62.10	104.23	94.20	113.04	94.95	176.67	158.58	266.90	264.36

Model Ordering Code Instruction

Spare Service Kits

Y - Joint Type
 I - I Knuckle
 Y - Y Knuckle
 F - Floating Joint
 U - Universal Joint

25 - Bore size
 16 - Ø 16 / 20
 25 - Ø 25 / 32
 40 - Ø 40

RCA

St. Steel barrel
 Ø 16
 Ø 20
 Ø 25
 Ø 32
 Ø 40
 Ø 50
 Ø 63

Kit no
 RCS-16K
 RCS-20K
 RCS-25K
 RCS-32K
 RCS-40K
 RCS-50K
 RCS-63K

Aluminium barrel
 Ø 20
 Ø 25
 Ø 32
 Ø 40

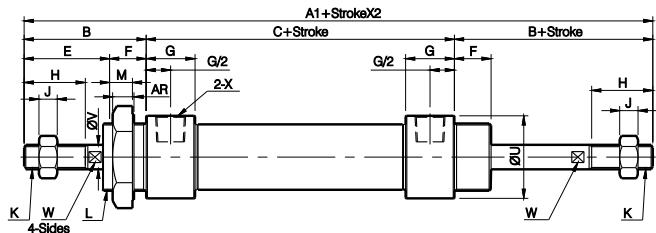
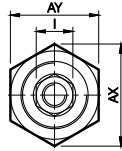
Kit no
 RCA-20-SK
 RCA-25-SK
 RCA-32-SK
 RCA-40-SK

Service for double acting cylinder kit consists of Rod packing, Piston 'O' ring, Cushion packings, and tube gaskets (Aluminium)

ROUNDLINE CYLINDER - DOUBLE ENDED RCAD \ RCSD Aluminium \ st. steel

Dimensions

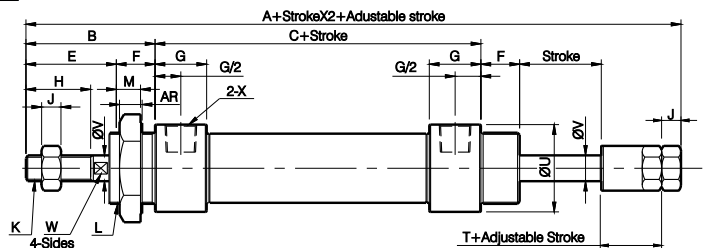
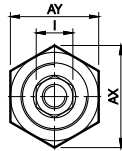
Ø16 - Ø40



ROUNDLINE CYLINDER - DOUBLE ENDED ADJ. STROKE RCAJ \ RCSJ Aluminium \ st. steel

Dimensions

Ø16 - Ø40

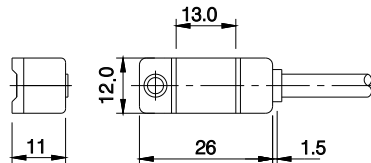


ITEM BORE SIZE (MM)	A		A1		B	C		E	F	G	H	I	J	K	L	M	T	U		V	W	X	AR	AX	AY
	RCA	RCS	RCA	RCS		RCA	RCS											RCA	RCS						
16	-	136	-	136	38	-	60	22	16	10	16	10	5	M6 X 1.0	M16 X 1.5	14	17	-	21	6	5	M5	6	25	22
20	150	156	147	153	40	70	76	28	12	16	20	12	6	M8 X 1.25	M22 X 1.5	10	19	29	27	8	6	G1/8	7	33	29
25	158	164	155	161	44	70	76	30	14	16	22	17	6	M10 X 1.25	M22 X 1.5	12	21	34	30	10	8	G1/8	7	33	29
32	158	164	155	161	44	70	76	30	14	16	22	17	6	M10 X 1.25	M24 X 2.0	12	21	39.5	35	12	10	G1/8	8	37	32
40	184	168	180	164	46	92	76	32	14	16.7	24	17	7	M12 X 1.25	M24 X 2.0	12	21	49.5	41.6	16	14	G1/4	9	37	41

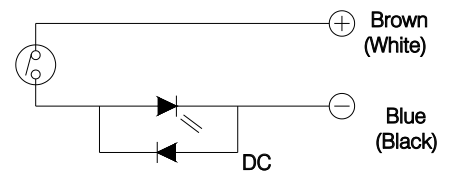
Accessories - Sensor Switch / Holder



RS-U



Hookup



Sensor switch type	Mounting band	Operating voltage range	Operating current range	Response time	Shock resistance	Vibration resistance	Temperature range	Environmental protection	Indicator lamp	Lead time	Cycle life time
	RCA RCS										
RS-U	SL SH	DC:5V~24V AC:5V~380V	DC:5~60mA AC:5~50mA	1 ms max	300 m/S ² (30G)	10~55Hz	0~60°C	IP-67	LED	2M	5X10 ⁶ Times
		DC:5V~30V AC:5V~240V	DC:5~50mA AC:5~40mA	1 ms max	300 m/S ² (30G)	10~55Hz	0~60°C	IP-67	LED	2M	5X10 ⁶ Times

Model Ordering Code Instruction

RS	-	U	SL	-	25
↑		↑	↑		↑
Sensor Switch Model		Type	Holder Model		Bore size
RS		U - Lamp in up position	SL - Aluminium barrel SH - Stainless steel barrel		16 - Ø 16 20 - Ø 20 25 - Ø 25 32 - Ø 32 40 - Ø 40

Shah Pneumatics

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