

# ***FABCO-AIR***

## ***FRB Series Rotary Actuators***



# FRB Series

Ultra compact design



Basic Type



Option U  
with angle adjustment



Option W  
with position sensing  
(sensors shown installed)

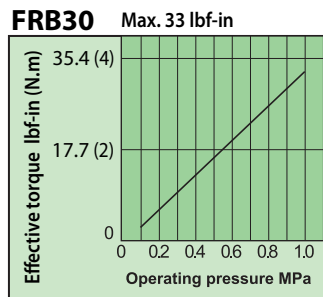
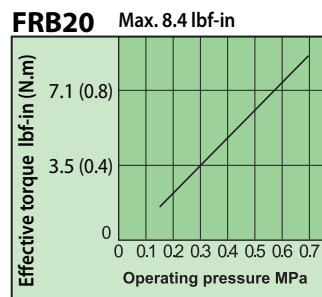
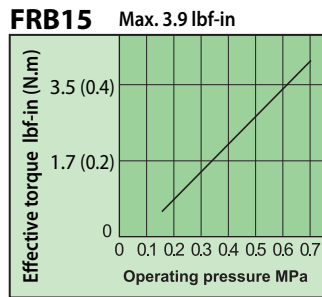
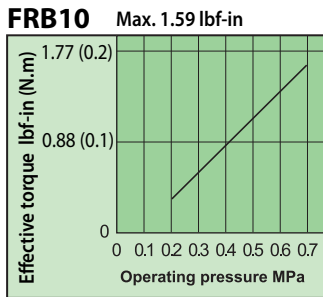
**Features**

- **Sizes 10, 15, 20, 30**
- **Rotation angles: 90°, 180°, 270°**
- **Stainless steel vane shaft**
- **Low pressure operation**
- **Sensor mounting**  
Allows adjustment through entire range of travel.



**Min. operating pressure**  
 Size 10: 0.2 MPa (29 psi)  
 Size 15, 20, 30: 0.15 MPa (22 psi)

**Effective output**



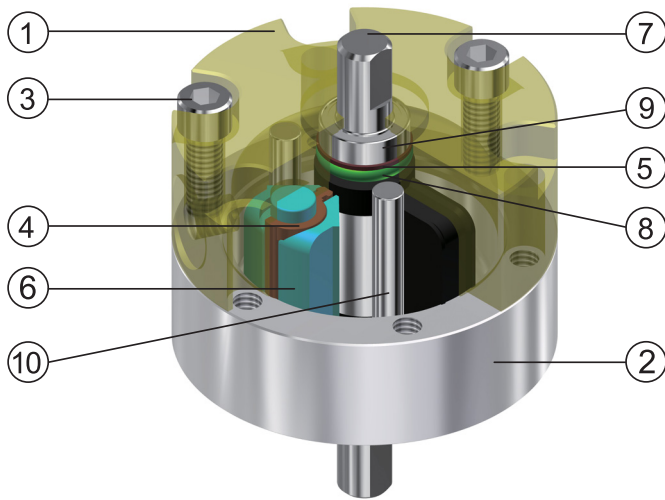
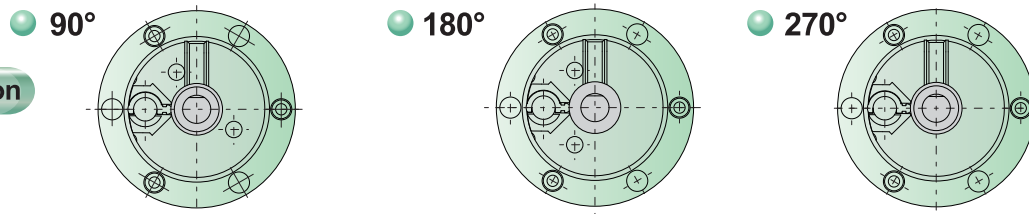
Pressure Conversion										
MPa	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
psi	22	29	43	58	72	87	101	116	130	145

**How to order**

<b>FRB</b>		<b>20</b>	x	<b>180</b>	
<b>Series</b>	<b>Mounting</b>	<b>Model</b>		<b>Rotation angle</b>	<b>Option</b>
Basic type	Leave Blank F	10 15 20 30		90° 180° 270°	Leave Blank Basic type U Angle adjustment W Position sensing WU Angle adjustment + Position sensing

Order sensors separately. See page 7.

#### Internal construction

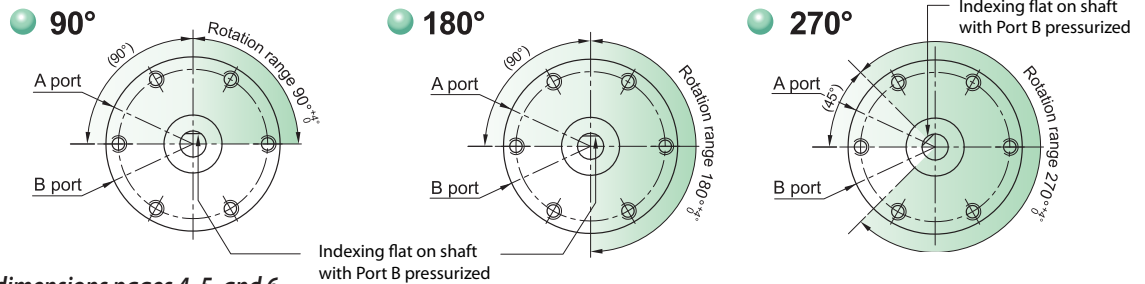


#### Part lists

NO.	Description	Material	Qty
1	Rear end cover	Hard anodized aluminum alloy	1
2	Front end cover	Hard anodized aluminum alloy	1
3	Hexagon screw	Carbon steel	3
4	Special seal	NBR	1
5	Washer	NBR	2
6	Stopper	Nylon	1
7	Vane shaft	Stainless steel	1
8	O-ring	Polyurethane	2
9	Bearing	Ball bearing	2
10	Stop Pin	Bearing steel	2

#### Rotation range

View "A" see pages 4, 5 & 6.

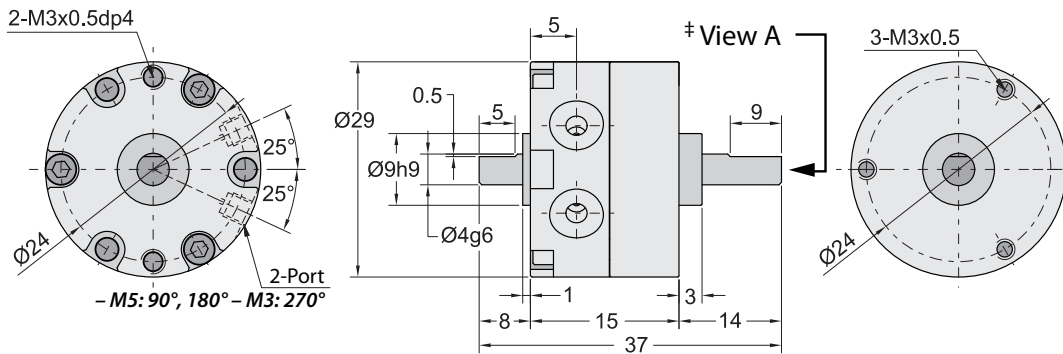


#### Specifications See dimensions pages 4, 5, and 6.

Series		FRB							
Model		10		15		20		30	
Operating fluid		Air (non-lube)							
Vane type		Single Vane							
Port size		M5X0.8	M3X0.5	M5X0.8	M3X0.5	M5X0.8			
Rotation angle + 4° / - 0		90°, 180°	270°	90°, 180°	270°	90°, 180°, 270°			
Shaft load (N)	Allowable radial load	15		15		25		30	
	Allowable thrust load	10		10		20		25	
Max. operating pressure		(0.7MPa) 101 psi				(1.0MPa) 145 psi			
Min. operating pressure		(0.2MPa) 29 psi		(0.15MPa) 22 psi					
Temperature range		5°C (41°F) to 60°C (140°F)							
Shaft type		Double shaft with single indexing flat on both shafts							

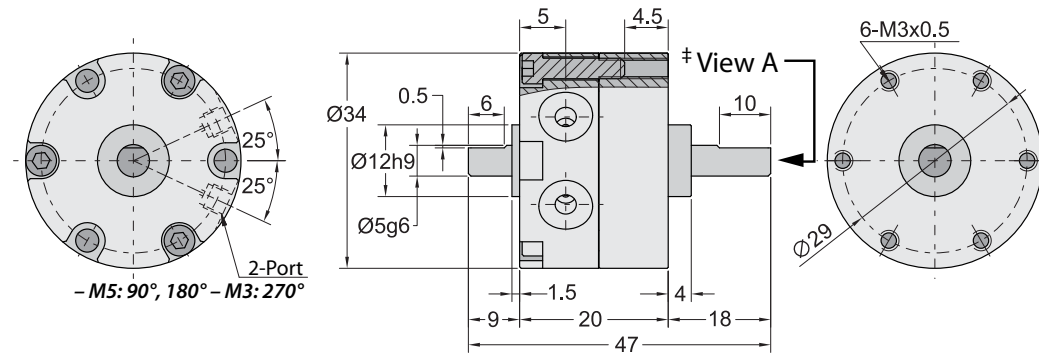
‡Note: View A - See rotation range on page 3.

#### FRB 10



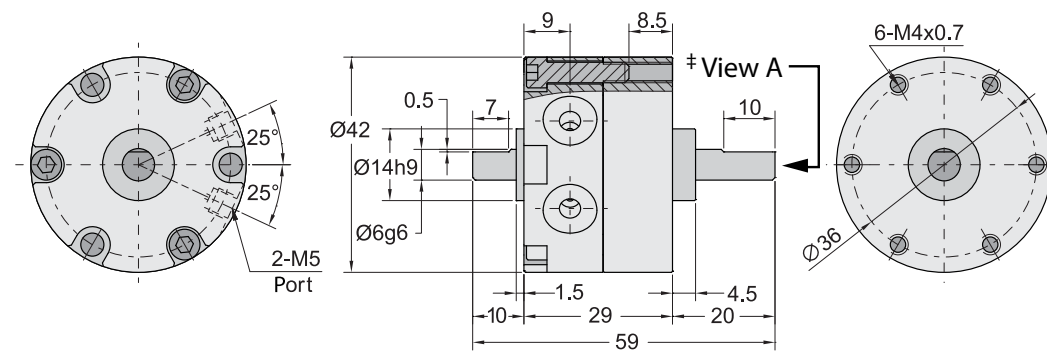
Item	Price
FRB10x90	-
FRB10x180	-
FRB10x270	-
Flange mount adder	-

#### FRB 15



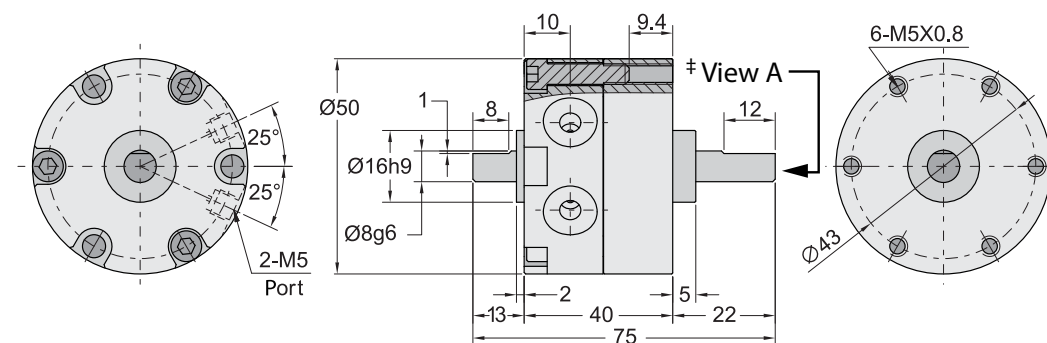
Item	Price
FRB15x90	-
FRB15x180	-
FRB15x270	-
Flange mount adder	-

#### FRB 20



Item	Price
FRB20x90	-
FRB20x180	-
FRB20x270	-
Flange mount adder	-

#### FRB 30

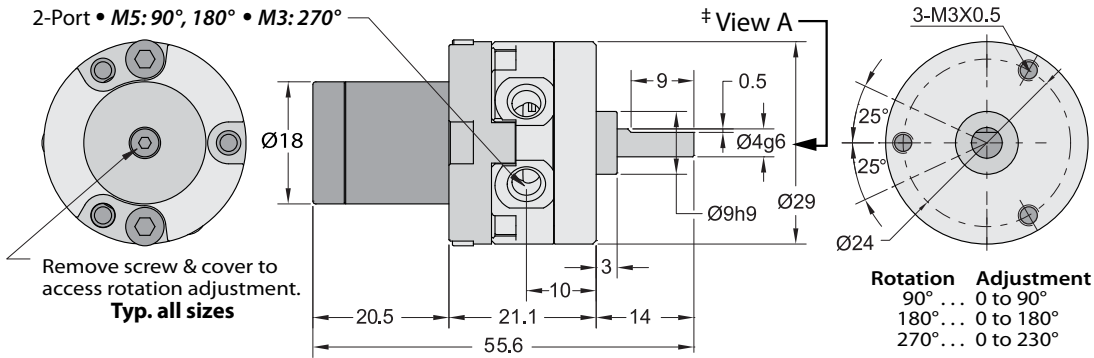


Item	Price
FRB30x90	-
FRB30x180	-
FRB30x270	-
Flange mount adder	-

‡Note: View A - See rotation range on page 3.

#### FRB 10U

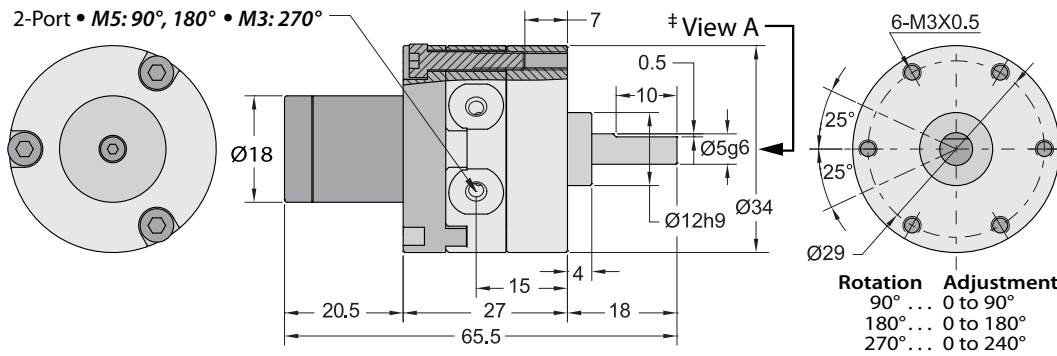
2-Port • M5: 90°, 180° • M3: 270°



Item	Price
FRB10x90U	-
FRB10x180U	-
FRB10x270U	-
Flange mount adder	-

#### FRB 15U

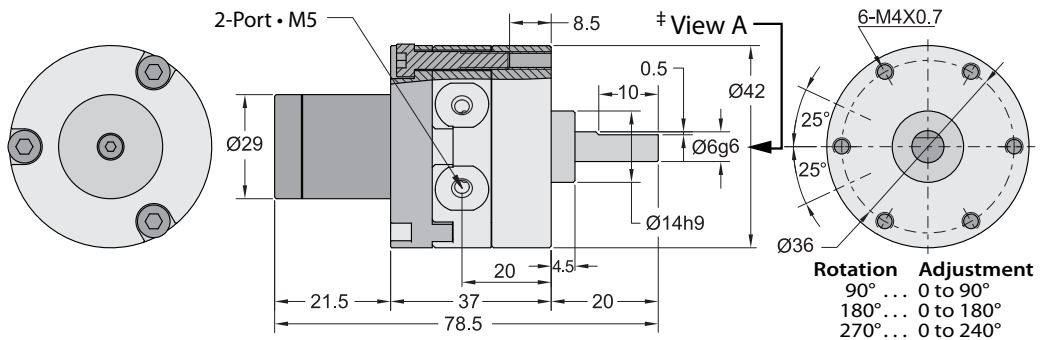
2-Port • M5: 90°, 180° • M3: 270°



Item	Price
FRB15x90U	-
FRB15x180U	-
FRB15x270U	-
Flange mount adder	-

#### FRB 20U

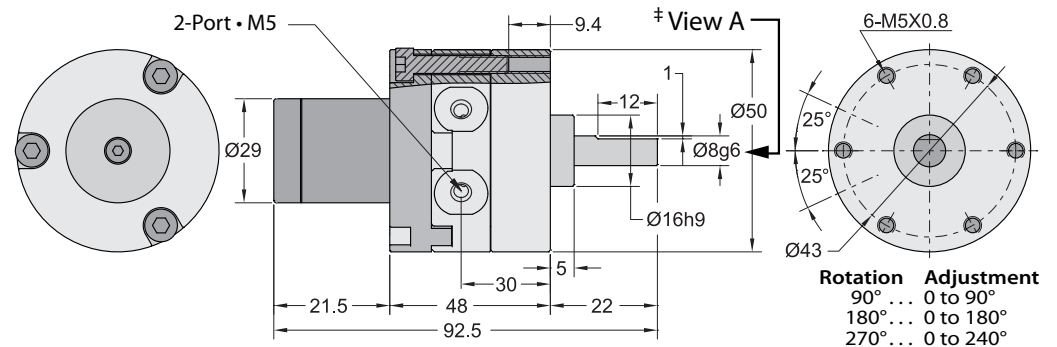
2-Port • M5



Item	Price
FRB20x90U	-
FRB20x180U	-
FRB20x270U	-
Flange mount adder	-

#### FRB 30U

2-Port • M5



Item	Price
FRB30x90U	-
FRB30x180U	-
FRB30x270U	-
Flange mount adder	-

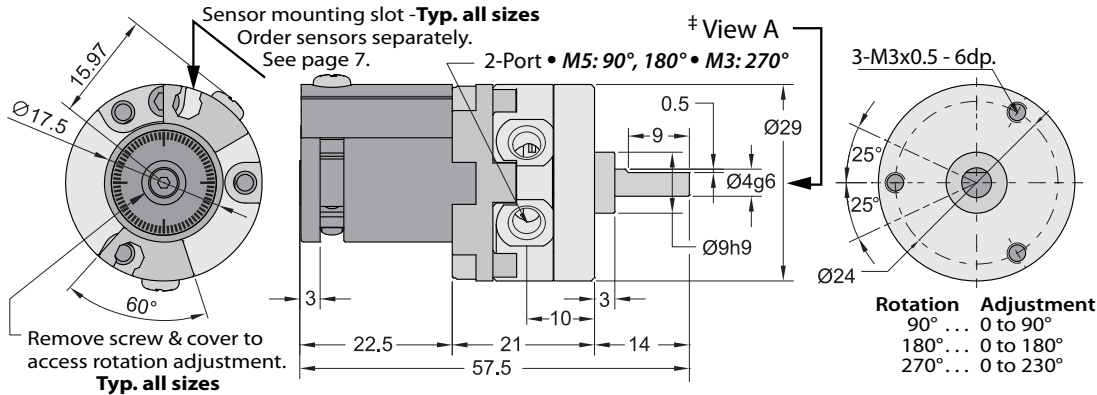


## ROTARY ACTUATOR – VANE TYPE FRB Series

Position sensing & rotation angle adjustment models • dimensions (mm)

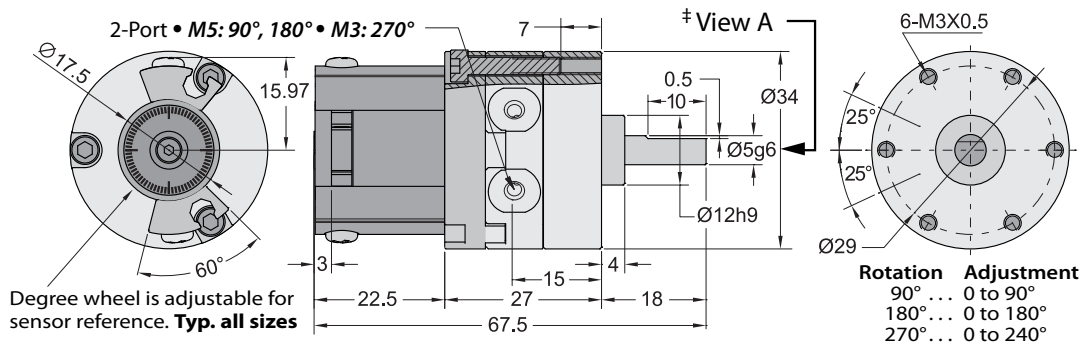
‡Note: View A - See rotation range on page 3.

### FRB 10W & FRB 10WU



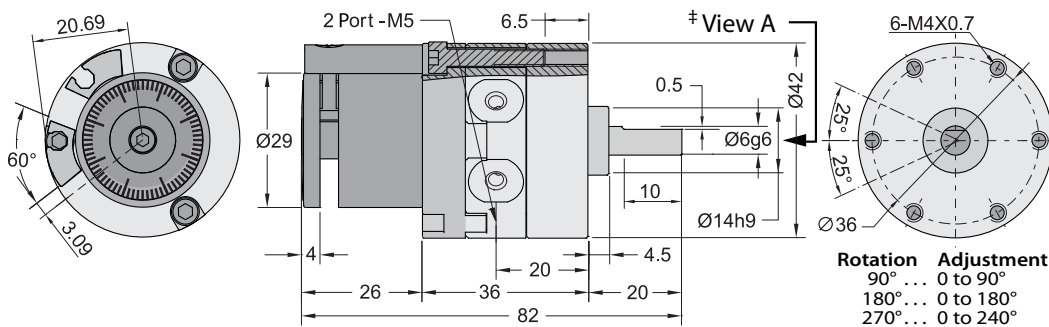
Item	Price
FRB10x90W	-
FRB10x180W	-
FRB10x270W	-
FRB10x90WU	-
FRB10x180WU	-
FRB10x270WU	-
Flange mount adder	-

### FRB 15W & FRB 15WU



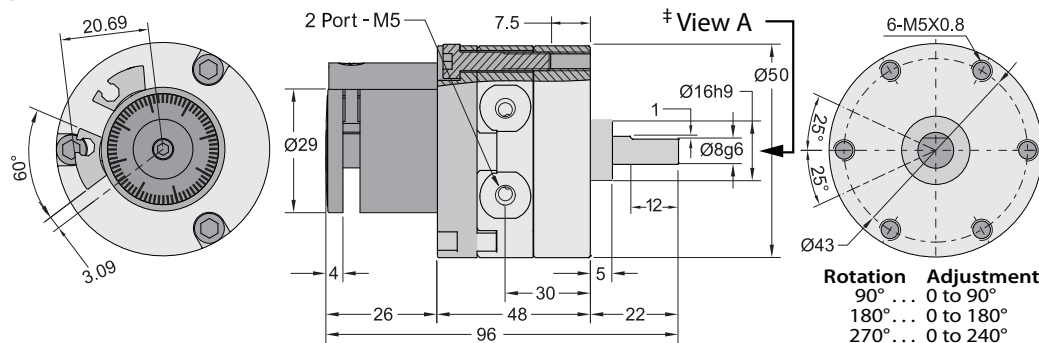
Item	Price
FRB15x90W	-
FRB15x180W	-
FRB15x270W	-
FRB15x90WU	-
FRB15x180WU	-
FRB15x270WU	-
Flange mount adder	-

### FRB 20W & FRB 20WU



Item	Price
FRB20x90W	-
FRB20x180W	-
FRB20x270W	-
FRB20x90WU	-
FRB20x180WU	-
FRB20x270WU	-
Flange mount adder	-

### FRB 30W & FRB 30WU

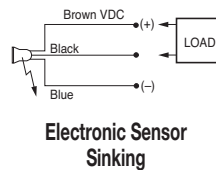
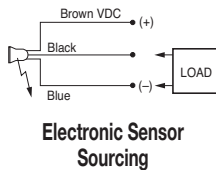
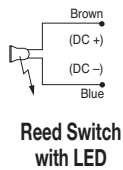
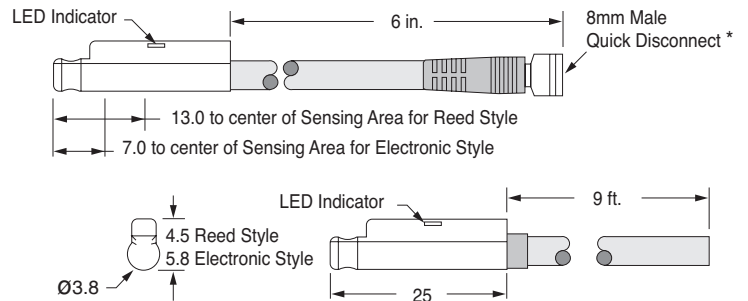


Item	Price
FRB30x90W	-
FRB30x180W	-
FRB30x270W	-
FRB30x90WU	-
FRB30x180WU	-
FRB30x270WU	-
Flange mount adder	-

**Round profile sensors**

Round Profile Sensors feature surge suppression, polarity protection, LED indicator, and extremely fast switching speeds. They slide into mating 4mm keyhole slots, and are easily positioned and locked in place with a set screw.

**Temperature Range for Sensors**  
 -20° to +80° C (-4° to +176° F)



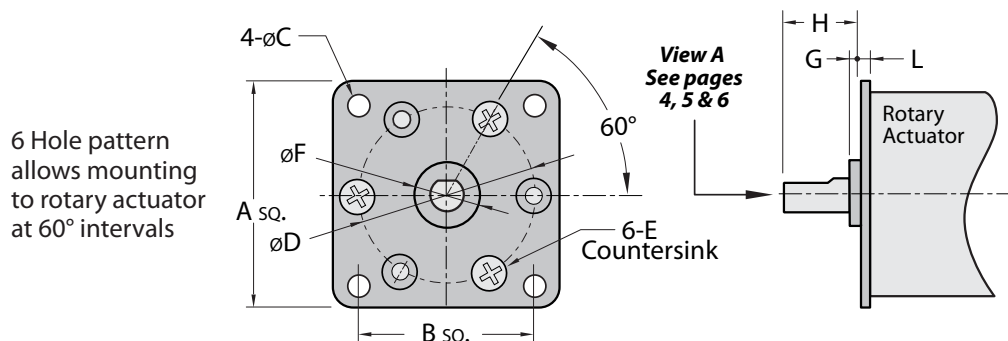
Female Cordsets			
Length	1 Meter	2 Meter	5 Meter
Part No.	CFC-1M	CFC-2M	CFC-5M
Price	-	-	-

**Ordering Guide**

Round Profile Sensors – Electrical Characteristics							Part Numbers and pricing			
Sensor Type	Function	Switching Voltage	Switching Current	Switching Power	Switching Speed	Voltage Drop	Prewired 9 ft. Part No.	Price	Quick Disconnect Part No.*	Price
Reed Switch for PLC's w/LED (current limiting)	SPST Normally Open	5-120V AC/DC 50/60 Hz	0.04 Amp max 0.005 Amp min.	4 Watts max.	0.5 ms operate 0.1 ms release	2.5 Volts	9C49-000-002	-	9C49-000-302 Requires 3 pin cordset	-
Electronic LED and Sourcing	PNP Normally Open	6-30 VDC	0.2 Amp max.	6 Watts max.	1.5µs operate 0.5µs release	1.5 Volts	9C49-000-031	-	9C49-000-331 Requires 3 pin cordset	-
Electronic LED and Sinking	NPN Normally Open	6-30 VDC	0.2 Amp max.	6 Watts max.	1.5µs operate 0.5µs release	1.5 Volts	9C49-000-032	-	9C49-000-332 Requires 3 pin cordset	-

Note\*: Quick Disconnect styles are supplied with 6 inch pigtail with male connector. Order female cordsets separately.

**Flange Mounting (Order Code F)**



Flange Dimensions (mm) and Pricing											
Model Size	A	B	øC	øD	E	øF	G	H	L	Kit Part No.	Flange kit Price
10	33	25	3.5	24	M3	9	0.5	11.5	2.5	FRB10-F	-
15	37	29	3.5	29	M3	12	1.5	15.5	2.5	FRB15-F	-
20	46	36	4.5	36	M4	14	1.3	16.8	3.2	FRB20-F	-
30	55	44	5.5	43	M5	16	1.8	18.8	3.2	FRB30-F	-



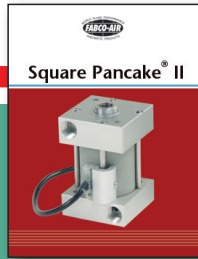
**NEW**  
oem NFPA Air Cylinders  
Catalog #FCQN-OEM



Cylinders, Valves and Accessories  
Catalog #CV9



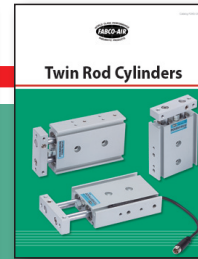
Pancake® II Air Cylinders  
Catalog #Pan2-2



Square Pancake® II  
Air Cylinders  
Catalog #SqPan2



ISO 6431 Cylinders  
Catalog #FAQR-09



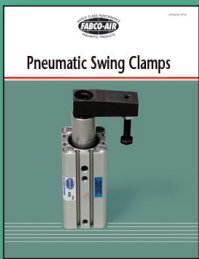
Twin Rod, Non-Rotating  
Air Cylinders - Catalogs  
#FDF-09 & #FDXS-09



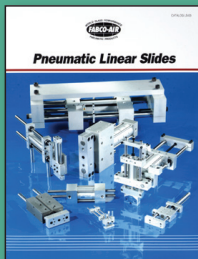
High Closing Force  
Angular Grippers  
Catalog #FKHC-10



Multi-Power® Air Presses  
Catalog #FP16



Swing Clamps  
Catalog #SC-DB04



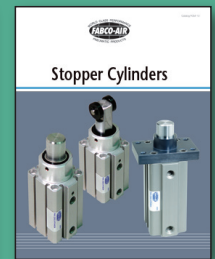
Linear Slides - 6 Families  
Catalog #LS-03



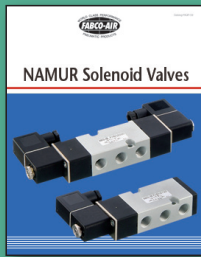
Compact Finger Slides  
Catalog #FDH-10



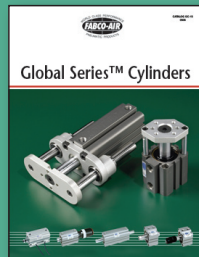
ISO 6432 Cylinders  
Catalog #FAE-09



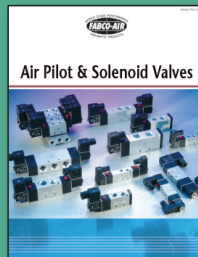
Stopper Cylinders  
Catalog #ST-SC



NAMUR Solenoid Valves  
Catalog #FVEN-10



Global Series™ Metric  
Air Cylinders  
Catalog #GC-15



Air Pilot and  
Solenoid Valves  
Catalog #FVA.E-09



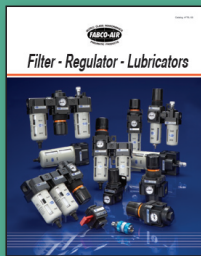
Air Table Slides  
Catalog #FGXS-10



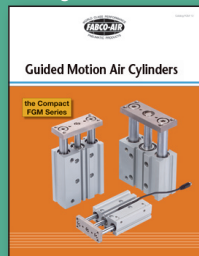
Wide & Narrow Parallel  
Grippers - Catalogs  
#FKHZ-10 & #FKHQ-10



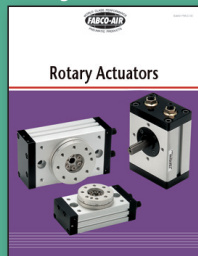
Toggle Type  
Angular Grippers  
Catalog #FKHT-10



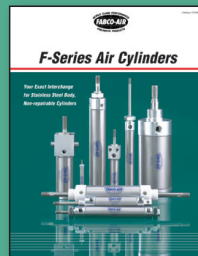
Modular Air Preparation  
System - FRLs  
Catalog #FRL-06



Guided Motion  
Air Cylinders  
Catalog #FGM-10



Pneumatic Rotary  
Actuators  
Catalog #FRA.C-09



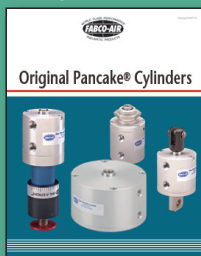
Stainless Steel Body  
Air Cylinders  
Catalog #SSB-03



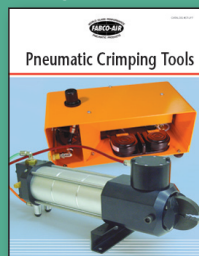
Pneumatic & Hydraulic  
Swing Clamps  
Catalog #FML.H



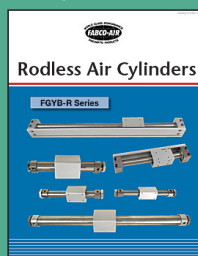
Wide Opening  
Parallel Grippers  
Catalog #FKHL-10



Original Pancake®  
Air Cylinders  
Catalog #CV9



Pneumatic  
Crimping Tools  
Catalog #FCT-JY07



Magnetically Coupled  
Rodless Air Cylinders  
Catalog #FGYBR-11



Magnetically Coupled  
Rodless Slides  
Catalog #FGYS-11



Angular Grippers  
Catalog #FKA-09



3 Series of Angular &  
Parallel Motion Grippers  
Catalog #GR8