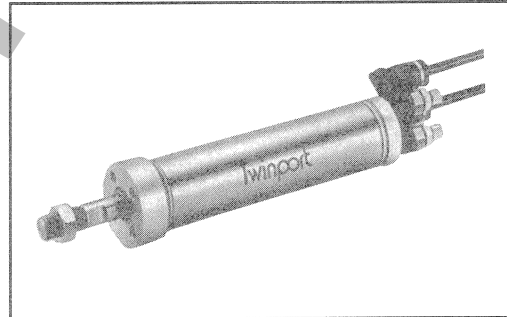
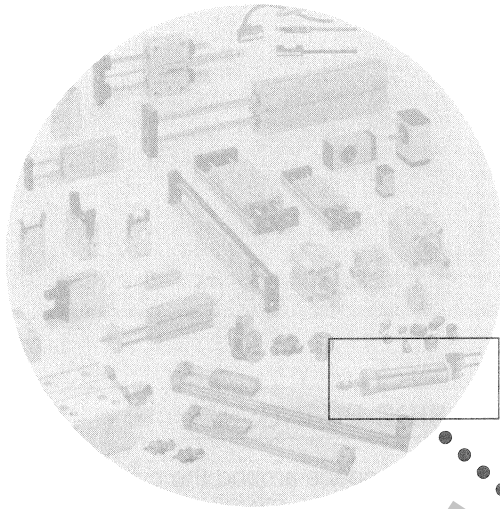
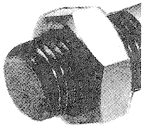


Twinport Cylinders



HUMPHREY TWINPORT CYLINDERS

- Double acting, with both ports in one location.
- Innovative dual barrel design.
- Single plane piping simplifies plumbing, eliminates dead space associated with conventional double acting cylinders.
- Compact, highly rigid mount facilitates precise installation.
- When using flow controls, space required for them is greatly reduced.
- Rotate cylinder every 90° to position ports as desired.
- Versatile port connections include rod end porting with nose or block mount, and head end porting. Choose what is best for you.
- Unique dual barrel design utilizes space inside the cylinder to accomplish double acting function. It's a super space saver.
- Special piston seal and oil permeated rod bushing provide long cycle life with no additional lubrication required.
- A piston magnet is designed-in thus cylinder is ready for use with sensor switches.
- Piston bumpers (standard) reduce shock and noise of operation.



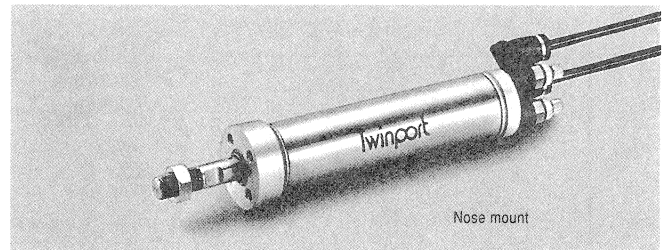
COMPARISON WITH OTHER CYLINDERS

Head side piping: -HA	Rod side piping: -RA
Twin port	
Typical cylinder	

HEAD SIDE PIPING: -HA

- No wasted space around the cylinder. By using piping adapter (L-HTWDA-□), port direction can be perpendicular to cylinder.
- Three mounting types: Nose type, Foot type, Flange type.

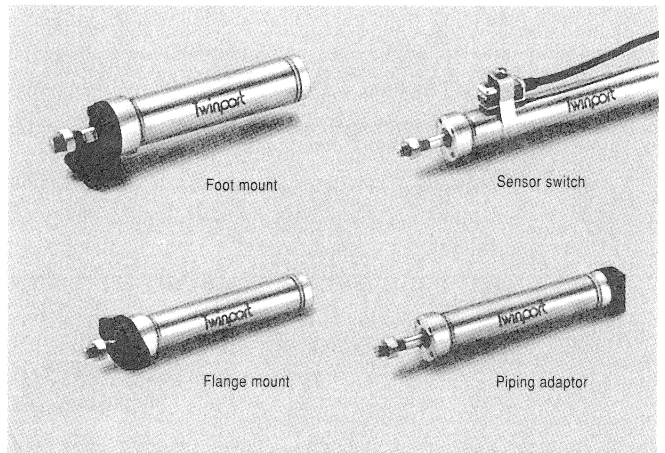
Head side piping type

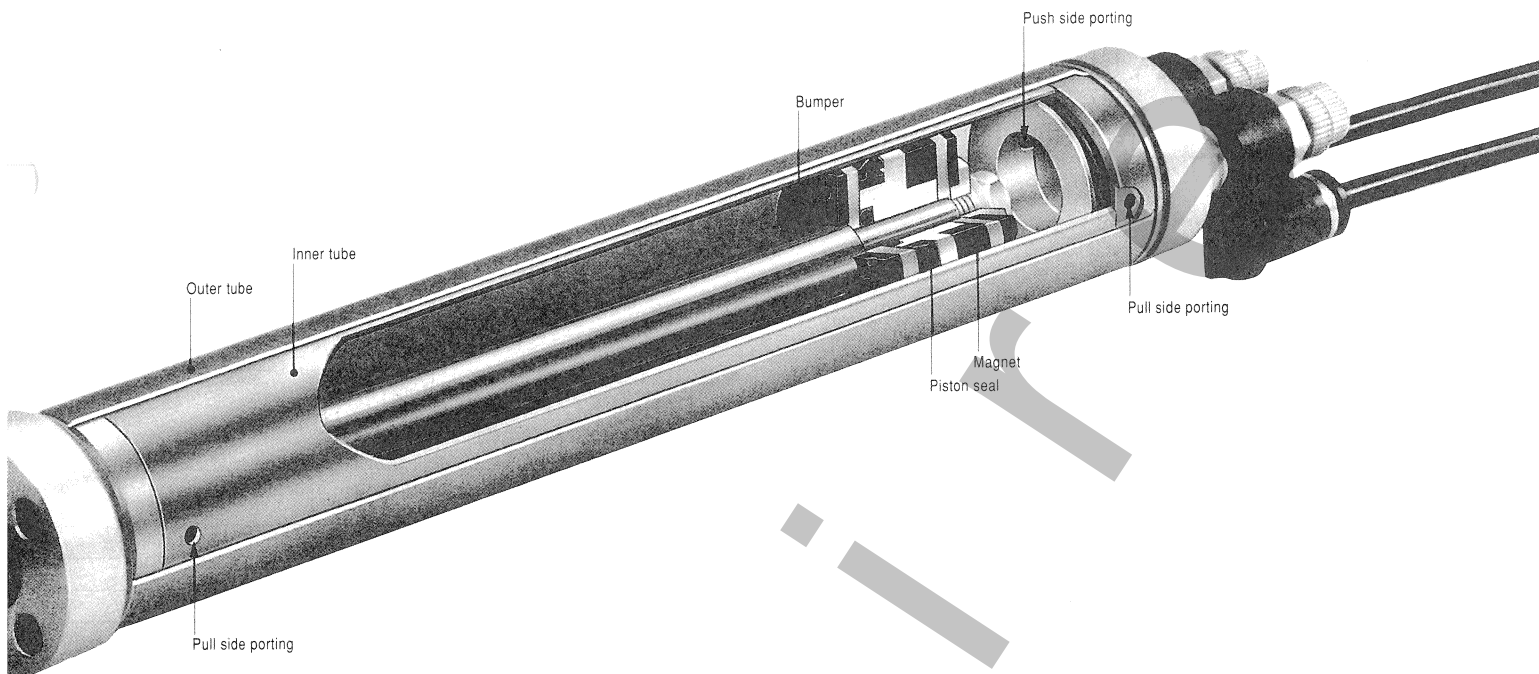


MOUNTING PITCH

Foot type	Flange type
Twin port	
Typical cylinder	

Options

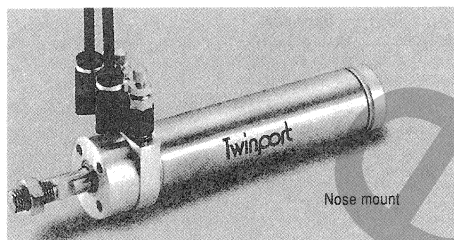




ROD SIDE PIPING: -RA

- Ports are positioned on piston rod side for applications where space around rear head side is limited.
- Rotate cylinder every 90° to position ports.

Rod side piping type

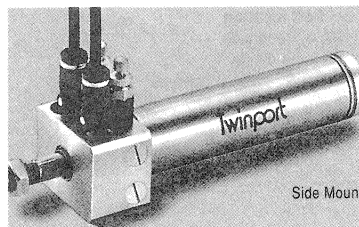


Nose mount

ROD SIDE PIPING – BLOCK TYPE: -RB

- Ports are positioned on rod side and cylinder is ready for side mounting.
- Alternate side ports are standard and are plugged from the factory.

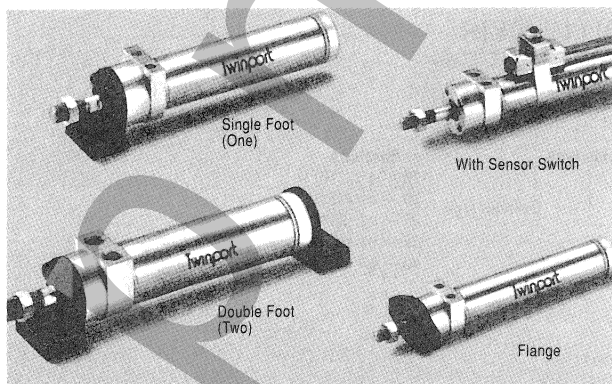
Rod side piping
Block type



Side Mount

Option: sensor switch

Options



Single Foot
(One)

With Sensor Switch

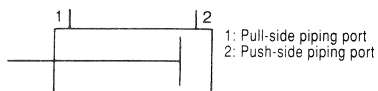
Double Foot
(Two)

Flange

SPECIFICATIONS

HEAD SIDE PIPING, ROD SIDE PIPING

SYMBOL



SPECIFICATIONS

Item	Nominal bore size – in. (mm)				
	5/8 (16)	3/4 (20)	1 (25)	1 1/4 (32)	1 1/2 (40)
Type of operation	Double acting				
Media	Air				
Mounting	Nose mount – one or two foot, flange and side mount				
Pressure range – psig (kgf/cm ²)	14 ~ 100 (1 ~ 7)				
Temperature range – °F (°C)	32 ~ 140 (0 ~ 60)				
Piston speed range – in./s (mm/s)	2 ~ 20 (50 ~ 500)				
Cushion	Rubber bumper				
Lubrication	None required				
Piping	10-32		1/8" NPT		

BORE SIZE AND STROKE

Type of operation	Nominal bore size in. (mm)	Standard stroke – in.
Double acting	5/8 (16)	1/2, 1, 2, 3, 4
	3/4 (20)	1/2, 1, 2, 3, 4, 6
	1 (25)	1/2, 1, 2, 3, 4, 6, 8
	1 1/4 (32)	1/2, 1, 2, 3, 4, 6, 8
	1 1/2 (40)	1/2, 1, 2, 3, 4, 6, 8, 10, 12

PORT LOCATION AND MOUNTING TYPE

Port location	Mounting type
Head: -HA	Nose, single foot, flange
Rod: -RA	Nose, single foot, double foot, flange
Rod w/block type: -RB	Side mount

ORDER EXAMPLE

HTWDA 25 × 2 – HA

Cylinder

Strokes

Bore size

16 — $\phi^{5/8}$ (16)
20 — $\phi^{3/4}$ (20)
25 — $\phi 1$ (25)
32 — $\phi 1 \frac{1}{4}$ (32)
40 — $\phi 1 \frac{1}{2}$ (40)

Port location

HA — Head side
RA — Rod side
RB — Rod side/Block type

ACCESSORIES

1A – HTWDA 32

Cylinder type

Bore size

16 — $\phi^{5/8}$ (16)
20 — $\phi^{3/4}$ (20)
25 — $\phi 1$ (25)
32 — $\phi 1 \frac{1}{4}$ (32)
40 — $\phi 1 \frac{1}{2}$ (40)

Mount

1A — Single foot
1B — Double foot
3A — Flange
L — Pipe adaptor

HOW TO ORDER ROD NUT

RN 10

Size

4: 10-32 UNF, $\phi^{5/8}$ (16)
8: $\frac{5}{16}$ -18, $\phi^{3/4}$ (20)
10: $\frac{3}{8}$ -16 UNC, $\phi 1$ (25) & $1 \frac{1}{4}$ (32)
12: $\frac{1}{2}$ -13 UNC, $\phi 1 \frac{1}{2}$ (40)

Rod Nut (Bag of 1 pc.)

ROD CLEVIS

I – HDA 20

Clevis type

Y
I

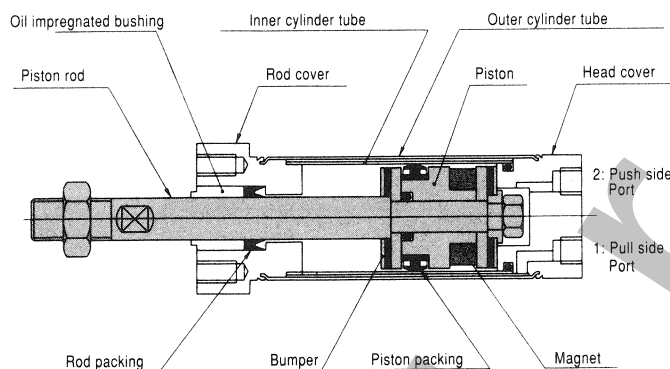
Cylinder type

Bore size

16 — $\phi^{5/8}$ (16)
20 — $\phi^{3/4}$ (20)
25 — $\phi 1$ (25)
32 — $\phi 1 \frac{1}{4}$ (32)
40 — $\phi 1 \frac{1}{2}$ (40)

INNER CONSTRUCTION AND MAJOR PARTS

Head side piping (-HA) shown:



MATERIALS OF MAJOR PARTS

Part name	Nominal bore size – in. (mm)				
	5/8 (16)	3/4 (20)	1 (25)	1 1/4 (32)	1 1/2 (40)
Outer tube	Stainless steel				
Inner tube	Brass				
Piston	Plastic (resin)				
Piston rod	Stainless (hard chrome plated)		Hard steel (hard chrome plated)		
Rod cover	Anodized aluminum				
Head cover	Anodized aluminum				
Packing	Buna				
Bumper	Buna				
Magnet	Rubber magnet	Resin magnet			
Adaptor	Aluminum (black)				
Knuckles	Nickel plated	Soft steel (chrome plated)			

WEIGHT

oz. (kgf)

Port location	Bore size in. nom. (mm actual)	Zero stroke weight nose type	Added weight 1 in. stroke increment	Added weight					
				Single foot	Double foot	Flange	Adaptor	I-knuckle	Y-knuckle
Head side piping: -HA	5/8 (16)	2.1 (0.060)	0.7 (0.020)	1.0 (0.028)	-	1.1 (0.030)	0.3 (0.008)	0.8 (0.022)	0.5 (0.015)
	3/4 (20)	3.9 (0.110)	1.1 (0.030)	1.8 (0.050)		1.9 (0.054)	0.5 (0.013)	1.3 (0.036)	1.5 (0.041)
	1 (25)	5.8 (0.165)	1.4 (0.041)	2.5 (0.070)		2.7 (0.076)	1.1 (0.030)	2.5 (0.070)	2.7 (0.075)
	1 1/4 (32)	9.7 (0.275)	2.1 (0.058)	3.7 (0.105)		4.8 (0.135)	2.1 (0.060)	2.5 (0.070)	2.7 (0.075)
	1 1/2 (40)	17.1 (0.485)	3.0 (0.084)	6.5 (0.185)		8.3 (0.235)	3.4 (0.095)	4.7 (0.132)	4.2 (0.120)
Rod side piping: -RA	5/8 (16)	2.7 (0.075)	0.7 (0.020)	1.0 (0.028)	1.9 (0.055)	1.1 (0.030)	-	-	-
	3/4 (20)	4.6 (0.130)	1.1 (0.030)	1.8 (0.050)	3.5 (0.098)	1.9 (0.054)			
	1 (25)	7.4 (0.210)	1.4 (0.041)	2.5 (0.070)	4.9 (0.140)	2.7 (0.076)			
	1 1/4 (32)	12.9 (0.365)	2.1 (0.058)	3.7 (0.105)	7.2 (0.205)	4.8 (0.135)			
	1 1/2 (40)	22.9 (0.650)	3.0 (0.084)	6.5 (0.185)	12.5 (0.355)	8.3 (0.235)			
Rod side w/black type: -RB	5/8 (16)	3.2 (0.090)	0.7 (0.020)	-	-	-	-	-	-
	3/4 (20)	5.5 (0.155)	1.1 (0.030)						
	1 (25)	8.6 (0.245)	1.4 (0.041)						
	1 1/4 (32)	19.2 (0.430)	2.1 (0.058)						
	1 1/2 (40)	27.3 (0.775)	3.0 (0.084)						

Calculation example: Head side piping: -HA, single foot type cylinder ø 3/4 in. (20mm), stroke 2 in. w/adaptor.
 $3.9 + 1.8 + (2 \times 1.1) + 0.5 = 8.4 \text{ oz.}$