

# ASCO™ PNEUMATIC PINCH VALVES

2 way, NC or NO, Pressure Operated, 1/4" - 3/4" ID

2/2  
SERIES  
**273**

- Series 273 Pinch Valve is designed for high-purity fluid control in biotech applications
- Hermetic separation of control mechanism and the fluid within the tubing prevents contamination, assuring maximum purity of liquids
- RoHS compliant
- Innovative design allows for firm retention of the soft tubing
- Bi-directional flow for exceptional versatility
- Available in a large range of body sizes to accommodate a wide variety of tubing sizes
- Typical applications include: Tangeantial Flow Filtration, Chromatography Skids, and Single-Use Bioreactors
- Available in Anodized Aluminum and Stainless Steel

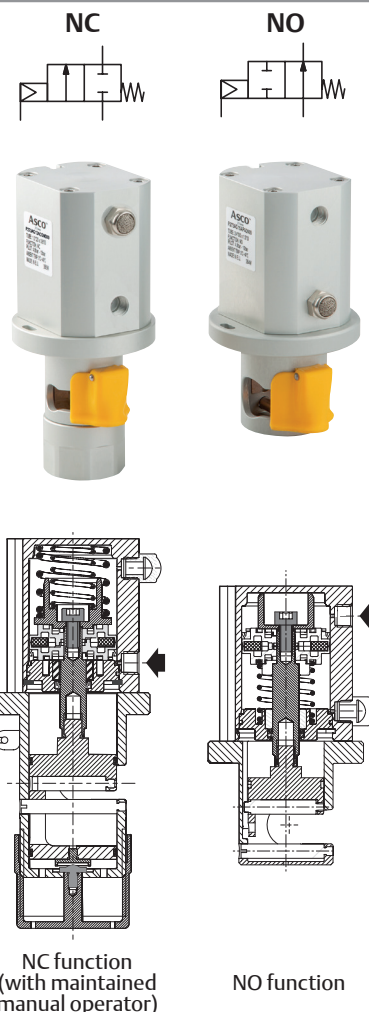
General	
Differential pressure	See «SPECIFICATIONS» [1 bar = 100 kPa]
Ambient temperature range	0°C to +40°C (32°F to 104°F)
Pilot fluid	Air
Air operated pressure	4.8 to 10 bar (70 PSI to 145 PSI)
Response time	200 ms (1/4" - 1/2" ID) & 400 ms (3/4" ID)

fluids (*)	temperature range
inert gases or liquids	0°C to +40°C (32°F to 104°F)

(\*) Ensure that the compatibility of the fluids in contact with the tube is verified.

Specifications	
Tube Range (OD)	3/8", 1/2", 3/4", 1" (see tube chart for Tube Range (OD/ID))
Tube Hardness range	55 to 80 Shore A
Tube Media Pressure	Up to 6 bar depending on size & tubing material, refer to tube chart (up to 90 PSI)

Other materials	
Body & Actuator	Stainless steel AISI 316 or anodised aluminium
Actuator screws	Stainless steel AISI 316
Dynamic pinching parts	Stainless steel AISI 316
Pin	Stainless steel AISI 304
Sliding rings	PTFE charged bronze



## Specifications

tube I.D.	tube O.D.	operating pressure differential bar (psi)		Catalog number	
		min.	max.	without manual operator	with maintained manual operator
mm (inches)	mm (inches)				
NC - Normally closed					
6.4 (1/4)	9.5 (3/8)	0	4 (60)	P273AG12ACA0000	P273AG12AC0M000
6.4 (1/4)	12.7 (1/2)	0	6 (90)	P273AG14ACA0000	P273AG14AC0M000
9.5 (3/8)	12.7 (1/2)	0	4 (60)	P273AG13ACA0000	P273AG13AC0M000
12.7 (1/2)	19.1 (3/4)	0	4 (60)	P273AG15ACA0000	P273AG15AC0M000
19.1 (3/4)	25.4 (1)	0	1.6 (25)	P273AG16ACA0000	P273AG16AC0M000
NO - Normally open					
6.4 (1/4)	9.5 (3/8)	0	4 (60)	P273AG12APA0000	-
6.4 (1/4)	12.7 (1/2)	0	6 (90)	P273AG14APA0000	-
9.5 (3/8)	12.7 (1/2)	0	4 (60)	P273AG13APA0000	-
12.7 (1/2)	19.1 (3/4)	0	4 (60)	P273AG15APA0000	-
19.1 (3/4)	25.4 (1)	0	4 (60)	P273AG16APA0000	-

## How to order

**15-DIGIT PRODUCT CODE**

**P 273 A G 12 A C A00 00**

**Connection Type**  
P = No connection

**Product series**  
273

**Revision letter**  
A = Initial release

**Pilot Connection Type**  
G = 1/8" G - ISO 228/1  
8 = 1/8" NPT

**Tube Size**  
12 = 1/4" I.D. x 3/8" O.D.  
13 = 3/8" I.D. x 1/2" O.D.  
14 = 1/4" I.D. x 1/2" O.D.  
15 = 1/2" I.D. x 3/4" O.D.  
16 = 3/4" I.D. x 1" O.D.

**Options**  
A00 = Without  
0M0 = With maintained manual operator <sup>(1)</sup>

**Function**  
C = 2 Way - Normally closed  
P = 2 Way - Normally open

**Body Material**  
A = Aluminium  
S = Stainless steel

<sup>(1)</sup> NO function not available.

**TUBES COMPATIBILITY TABLE AT 25°C (77°F)**

	tube I.D.	tube O.D.	tubing type	tubing material	tubing nominal hardness (Shore A)	max. tested media pressure <sup>(3)</sup> bar (psi)
P273A-12-----00	6.4 (1/4)	9.5 (3/8)	AdvantaFlex®, APAF-BP	TPE	65	0.8 (12)
			C-Flex® 374	TPE	60	1.0 (15)
			Pharma 80	Platinum-Cured Silicone	80 <sup>(2)</sup>	4.0 (60)
P273A-14-----00	6.4 (1/4)	12.7 (1/2)	C-Flex® 374	TPE	60	1.0 (15)
			Tygon® B-44-4X	PVC	66	2.1 (30)
			Pharma 80	Platinum-Cured Silicone	80 <sup>(2)</sup>	4.0 (60)
			Vena®, TECHNOSIL	Braided Silicone	70/60	6.0 (90)
P273A-13-----00	9.5 (3/8)	12.7 (1/2)	Tygon® B-44-4X	PVC	66	1.7 (25)
			Pharma 80	Platinum-Cured Silicone	80 <sup>(2)</sup>	4.0 (60)
P273A-15-----00	12.7 (1/2)	19.1 (3/4)	AdvantaFlex®, APAF-BP	TPE	65	0.8 (12)
			C-Flex® 374	TPE	60	1.0 (15)
			Tygon® B-44-4X	PVC	66	1.4 (20)
			Pharma 65	Platinum-Cured Silicone	65 <sup>(2)</sup>	4.0 (60)
			Pharma 80	Platinum-Cured Silicone	80 <sup>(2)</sup>	4.0 (60)
P273A-16-C---00	19.1 (3/4)	25.4 (1)	AdvantaFlex®, APAF-BP	TPE	65	0.8 (12)
			C-Flex® 374	TPE	60	1.0 (15)
			Pharma 50	Platinum-Cured Silicone	50 <sup>(2)</sup>	1.6 (25)
P273A-16-P---00	19.1 (3/4)	25.4 (1)	AdvantaFlex®, APAF-BP	TPE	65	0.8 (12)
			C-Flex® 374	TPE	60	1.0 (15)
			Tygon® B-44-4X	PVC	66	1.4 (20)
			Pharma 50	Platinum-Cured Silicone	50 <sup>(2)</sup>	1.6 (25)
			Pharma 80	Platinum-Cured Silicone	80 <sup>(2)</sup>	4.0 (60)

<sup>(2)</sup> In accordance with the manufacturer's specifications, a single cycle of gamma radiation up to 40 kGy has minimum effect on mechanical properties of the tubing. No effect has been observed on valve's performances when used with an irradiated sample of tubing.

<sup>(3)</sup> Maximum media pressure for reference only. It is user's responsibility to verify performance. Please contact tubing manufacturers for maximum working pressure and temperature.

The tubing has been tested with air at the maximum pressure stated in the table above. After 20000 pinching cycles in the same spot of the tubing, no fully-penetrated surface cuts or compromised integrity have been observed in our testing.

Please contact ASCO to verify suitability for any condition not stated in the above table.

C-Flex® and Tygon® are registered trademarks of Saint-Gobain Performance Plastics.

AdvantaFlex® is a registered trademark of NewAge® Industries, Inc.

Vena® is a registered trademark of Venair.

## Installation

- The valves can be mounted in any position without affecting operation
- Check tube compatibility table
- Piloting thread connection: Pipe connections (G) have standard thread according to ISO 228/1
- Piloting thread connections have standard thread = NPTF (ANSI B1.20.3)
- Installation/maintenance instructions are included with each valve

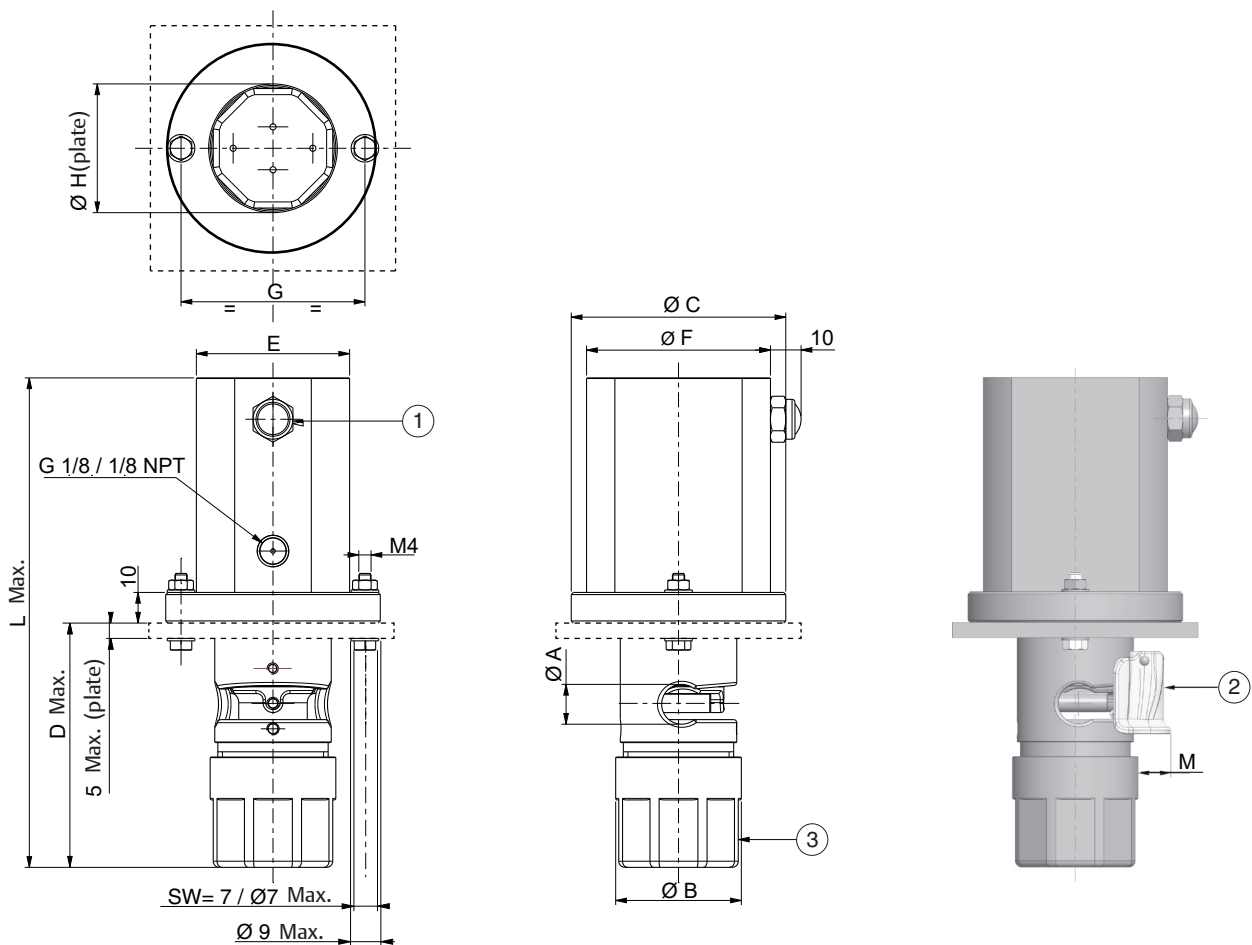
## Dimensions mm (inches), Weight (kg)



### TYPE 01

"P" No connection  
NC version only

With maintained manual operator



- ① Silencer  
② Safety guard  
③ Maintained manual operator

												weight kg (Lbs)			
		size		ØA	ØB	ØC	D	E	ØF	G	ØH	L	M	aluminium	st. steel
		mm	(in)											kg	kg
P273A-12-COM000		9.5x6.40	3/8x1/4	9.6	35.00	57.00	63.50	36.00	45.00	50.00	36.00	123.50	6.50	0.36	0.91
				0.38	1.38	2.24	2.50	1.42	1.7	1.97	1.30	4.86	0.26	0.79	2.01
P273A-13-COM000		12.7x9.50	1/2x3/8	13.00	41.00	70.00	79.50	50.00	60.00	60.00	42.00	160.00	10.50	0.68	1.61
				0.51	1.61	2.76	3.13	1.97	2.36	2.36	1.65	6.30	0.41	1.51	3.54
P273A-14-COM000		12.7x6.40	1/2x1/4	13.00	41.00	70.00	79.50	50.00	60.00	60.00	42.00	160.00	10.50	0.68	1.61
				0.51	1.61	2.76	3.13	1.97	2.36	2.36	1.65	6.30	0.41	1.51	3.54
P273A-15-COM000		19.1x12.7	3/4x1/2	20.00	53.00	75.00	97.00	50.00	60.00	65.00	54.00	177.00	11.00	0.79	1.88
				0.79	2.09	2.95	3.82	1.97	2.36	2.56	2.13	6.97	0.43	1.74	4.14
P273A-16-COM000		25.4x19.1	1x3/4	25.50	65.00	85.00	115.00	60.00	70.00	75.00	66.00	195.00	11.70	1.19	2.85
				1.00	2.56	3.35	4.53	2.36	2.76	2.95	2.60	7.68	0.46	2.62	6.28

Dimensions mm (inches), Weight (kg) 

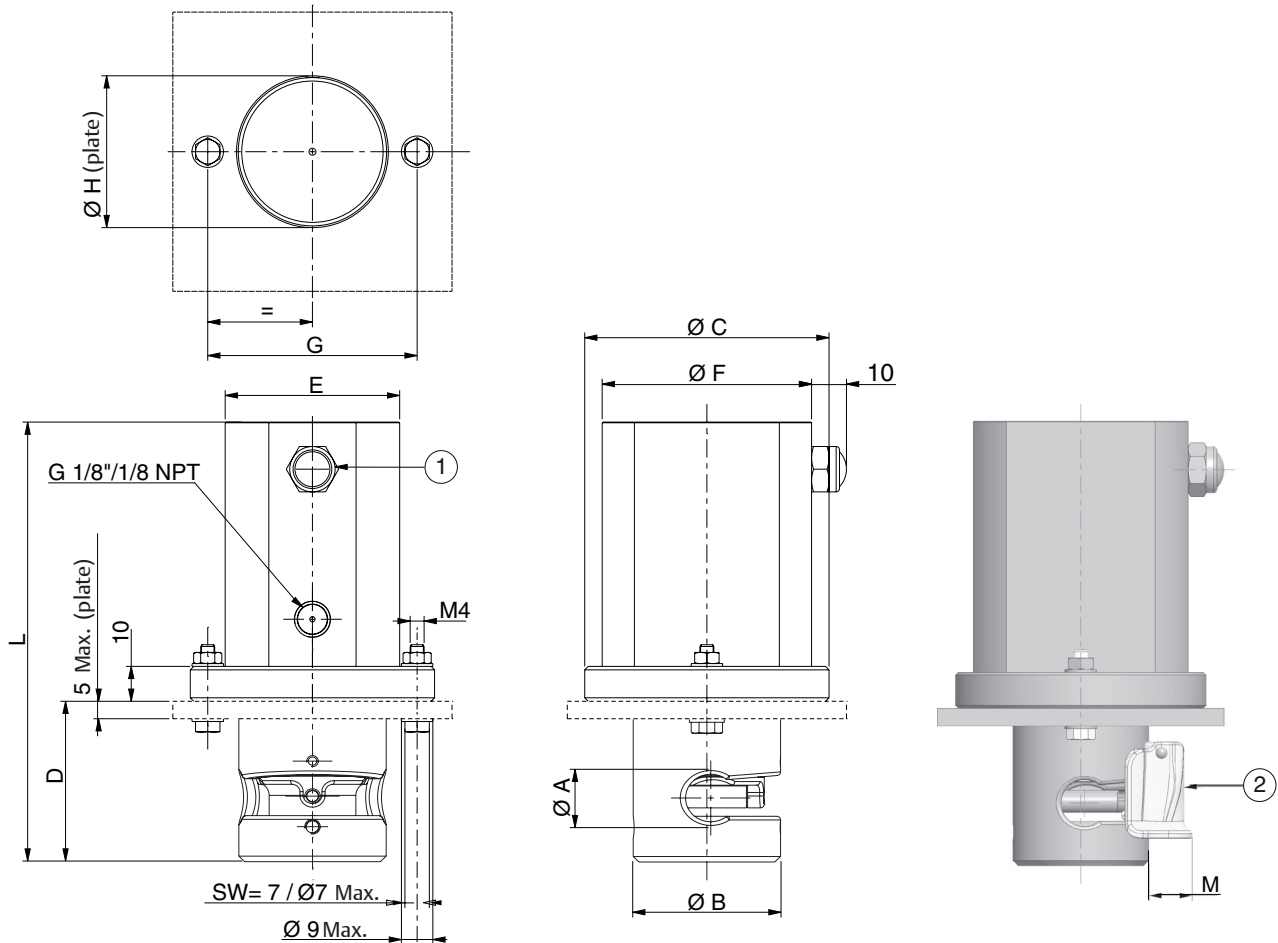


**TYPE 02**

"P" No connection

NC version

Without manual operator



- ① Silencer  
② Safety guard

												weight kg (Lbs)			
		size	ØA	ØB	ØC	D	E	ØF	G	ØH	L	M	aluminium	st. steel	
P273A-12-CA0000	mm	9.5x6.4	9.60	32.00	57.00	30.50	36.00	45.00	50.00	33.00	90.50	8.00	0.310	kg	0.78
	(in)	3/8x1/4	0.38	1.26	2.24	1.20	1.42	1.77	1.97	1.30	3.56	0.31	0.68	(Lbs)	1.73
P273A-13-CA0000	mm	12.7x9.5	13.00	38.00	70.00	44.00	50.00	60.00	60.00	39.00	124.00	12.00	0.52	kg	1.15
	(in)	1/2x3/8	0.51	1.50	2.76	1.73	1.97	2.36	2.36	1.54	4.88	0.47	1.15	(Lbs)	2.54
P273A-14-CA0000	mm	12.7x6.4	13.00	38.00	70.00	44.00	50.00	60.00	60.00	39.00	124.00	12.00	0.52	kg	1.15
	(in)	1/2x1/4	0.51	1.50	2.76	1.73	1.97	2.36	2.36	1.54	4.88	0.47	1.15	(Lbs)	2.54
P273A-15-CA0000	mm	19.1x12.7	20.00	42.50	75.00	46.00	50.00	60.00	65.00	43.50	126.00	12.50	0.61	kg	1.39
	(in)	3/4x1/2	0.79	1.67	2.95	1.81	1.97	2.36	2.56	1.71	4.96	0.49	1.35	(Lbs)	3.06
P273A-16-CA0000	mm	25.4x19.1	25.50	60.00	85.00	62.00	60.00	70.00	75.00	61.00	142.00	14.00	1.00	kg	2.66
	(in)	1x3/4	1.00	2.36	3.35	2.44	2.36	2.76	2.95	2.40	5.60	0.55	2.20	(Lbs)	5.00

Dimensions mm (inches), Weight (kg) 

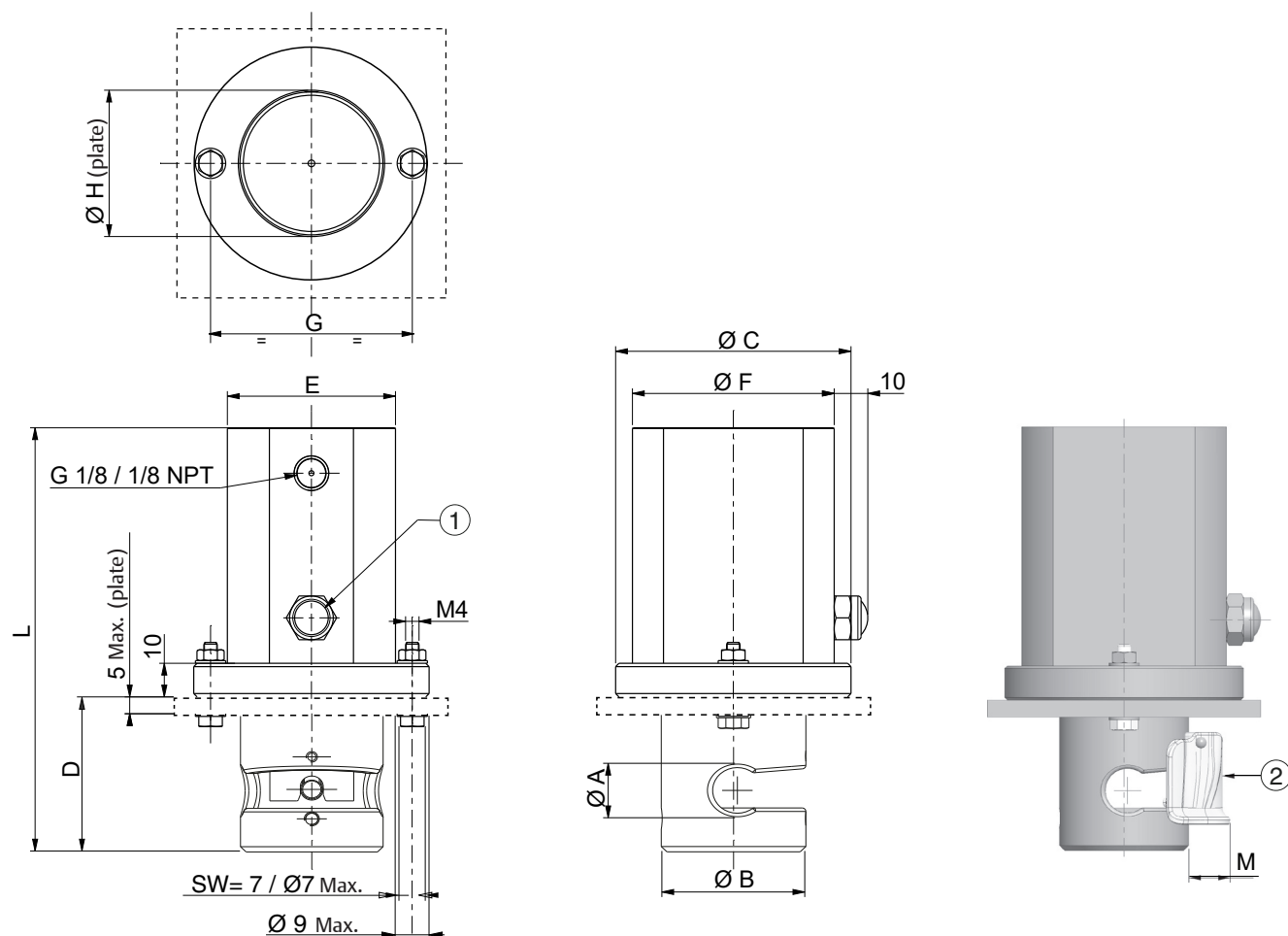


## TYPE 03

"P" No connection

NO version

Without manual operator



- ① Silencer  
② Safety guard

												weight kg (Lbs)			
		size	ØA	ØB	ØC	D	E	ØF	G	ØH	L	M	aluminium	st. steel	
P273A-12-PA0000	mm	9.5x6.4	9.60	32.00	57.00	30.50	36.00	45.00	50.00	33.00	90.50	8.00	0.310	kg	0.78
	(in)	3/8x1/4	0.38	1.26	2.24	1.20	1.42	1.77	1.97	1.30	3.56	0.31	0.68	(Lbs)	1.73
P273A-13-PA0000	mm	12.7x9.5	13.00	38.00	70.00	44.00	50.00	60.00	60.00	39.00	124.00	12.00	0.52	kg	1.15
	(in)	1/2x3/8	0.51	1.50	2.76	1.73	1.97	2.36	2.36	1.54	4.88	0.47	1.15	(Lbs)	2.54
P273A-14-PA0000	mm	12.7x6.4	13.00	38.00	70.00	44.00	50.00	60.00	60.00	39.00	124.00	12.00	0.52	kg	1.15
	(in)	1/2x1/4	0.51	1.50	2.76	1.73	1.97	2.36	2.36	1.54	4.88	0.47	1.15	(Lbs)	2.54
P273A-15-PA0000	mm	19.1x12.7	20.00	42.50	75.00	46.00	50.00	60.00	65.00	43.50	126.00	12.50	0.61	kg	1.39
	(in)	3/4x1/2	0.79	1.67	2.95	1.81	1.97	2.36	2.56	1.71	4.96	0.49	1.35	(Lbs)	3.06
P273A-16-PA0000	mm	25.4x19.1	25.50	60.00	85.00	62.00	60.00	70.00	75.00	61.00	142.00	14.00	1.00	kg	2.66
	(in)	1x3/4	1.00	2.36	3.35	2.44	2.36	2.76	2.95	2.40	5.60	0.55	2.20	(Lbs)	5.00

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