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**Title: SQE1,SQE2,QE2,QE3,QE4,QE5, SQE Quick Exhausts**

**ISO Date: July 28, 2004**

#### **Don't Take Chances**

Compressed air is an extremely powerful medium. Always take maximum precautions when handling any component of a compressed air system. **Never** attempt to construct, replace, operate or service any component of a compressed air system unless you have been specifically and properly trained to do so. **Always** disconnect the supply air and exhaust the air system before attempting to remove or service a component of that system. Failure to heed these warnings could result in **SERIOUS, EVEN FATAL, PERSONAL INJURY.**

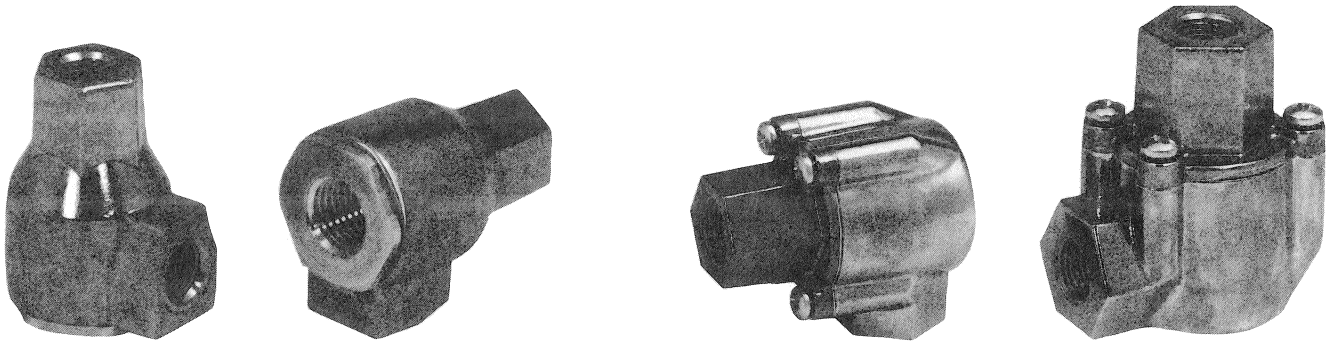
#### **Design And Specifications**

The design and specifications and other product information contained in this catalog is for general reference purposes based upon customary and usual manufacturing standards and product applications. However, it is difficult to predict or to anticipate the functioning or suitability of the product for any particular application or use. Therefore, nothing herein shall be deemed a representation or warranty of the product design or specifications and Buyer shall have the responsibility for investigating and testing the product in any particular application or use and all risks attendant in such use.

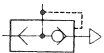
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<http://www.humphrey-products.com>

# Humphrey Super Quick Exhaust Valves

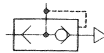
Humphrey Super Quick Exhaust valves feature a special molded shuttle designed especially for quick exhaust valve service. The shuttle's full-formed seating surface provides long cycle life and outperforms the flat-disk (sheet stock) diaphragms found in competitive valve designs. Because of its shuttle design, the Humphrey Super Quick Exhaust valve does not require the flow-restricting metal body webbing used in flat-disk designs. There are many practical uses for these low-cost Super Quick Exhaust valves, and there is a size for virtually every need, with pipe ports from #10-32 to 3/4-inch.



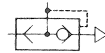
SQE1



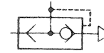
SQE2



QE2



QE3



## How Super Quick Exhaust Valves are used to enhance the performance of air cylinders

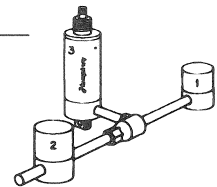
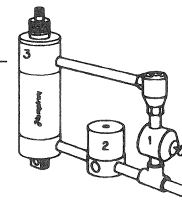
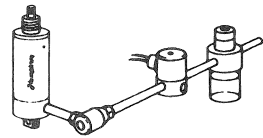
**Lubrication Problem.** Small bore cylinders are often poorly lubricated due to the small displacement of air per cycle. Lubricant back-flows through control valve on the exhaust cycle without reaching cylinder. Oil traces at the valve exhaust port does not prove proper cylinder lubrication.

**Solution:** Close nipple Super Quick Exhaust to cylinder. This stops back-flow and allows progressive oil flow to cylinder. Oil traces at the Super QE exhaust port prove cylinder lubrication.

**"Air Spring" Return.** Provides controlled "air spring" return, a potential advantage over standard spring return cylinders in that the "air spring" return force can be adjusted by a regulator. Also provides a method of controlling double acting cylinders with a 3-way valve. Return-regulator (1) set at selected pressure. (2) Normally closed 3-way valve. (3) Double acting cylinder. Example of use: Cylinder rod extends with high pressure for impact. Rod retracts under low pressure.

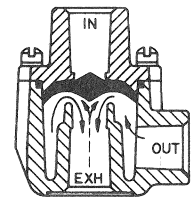
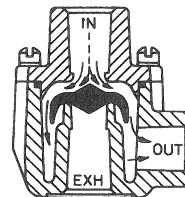
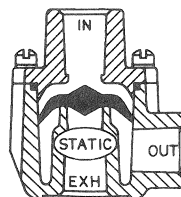
**Super Quick Exhaust used as a shuttle valve.** Air from 3-way valves (1 or 2) always directed to cylinder (3).

**High-Low Pressure.** Reduce noise, shock, and stress on cylinder. Extend rod with low pressure (2) to position, hold, etc. Switch to high pressure (1) to lock, bend, reposition, etc. Return to low pressure by closing (1), or retract rod by closing (1) and (2).

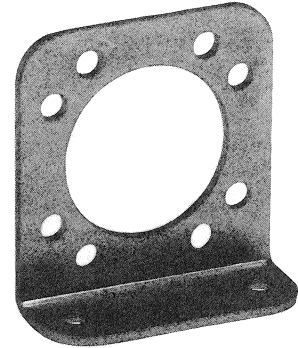
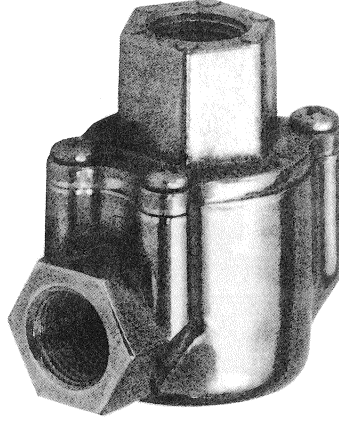
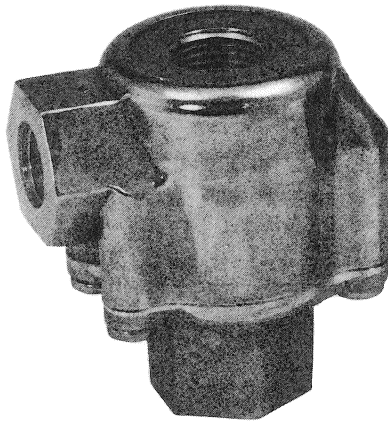


## How It Works:

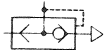
(Broken Lines - Shuttle Valve)  
(Solid Lines - Quick Exhaust)



\*Always exhausts out this port.  
Add muffler to reduce noise. Plug for use as check valve.



**QE4**



**QE5**



**8-12 Mounting Bracket for QE4 and QE5**

**8-1A Mounting Bracket for QE2 and QE3**

**Specifications**

**MEDIA:** Compressed Air (Consult factory for others)  
**PRESSURE RANGE:** 150 psig (10.7 bars) Maximum  
**TEMPERATURE RANGE:** -25 to 180°F (-31.7 to 82.2°C)  
**OPERATING SPEEDS:** To 600 CPM  
**MATERIALS:** Zinc & Aluminum Die Cast, Zinc Plated Steel Fasteners, Buna N, Polyurethane  
**LUBRICATION:** Not required

MODEL	PORT SIZE			PSI/BARS		30 PSIG CFM	(2.1 BARS) LPM	50 PSIG CFM	(3.5 BARS) LPM
	IN	OUT	EXHAUST	MIN	MAX				
SQE1	1/2"	1/2"	1/2"	4/3	150/10.7	22.5	636.8	33.5	948.1
SQE2	1/2"	1/2"	1/2"	4/3	150/10.7	32.0	905.6	47.0	1330.1
QE2	1/2"	1/2"	1/2"	3/2	150/10.7	45.0	1273.5	65.0	1839.5
QE3	1/2"	1/2"	1/2"	2/1.4	150/10.7	55.0	1556.5	80.0	2264.0
QE4	1/2"	1/2"	1/2"	1/1.07	150/10.7	Consult Factory			
QE5	1/2"	1/2"	1/2"	1/1.07	150/10.7	Consult Factory			

**Fill/Exhaust Time (Seconds)**

MODEL	PORT-NPT			A = 10 CU. IN. (164cc)	B = 100 CU. IN. (1640cc)	C = 1000 CU. IN. (16,400cc)
	IN	OUT	EXHAUST	FILL 0-80 PSIG (0-5.5 BARS) EXHAUST 100-20 PSIG (7.0-1.4 BARS)		
SQE1	1/2"	1/2"	1/2"	A	.036	.022
SQE2	1/2"	1/2"	1/2"	A	.027	.021
QE2	1/2"	1/2"	1/2"	B	.170	.160
QE3	1/2"	1/2"	1/2"	B	.130	.100
QE4	1/2"	1/2"	1/2"	C	.537	.440
QE5	1/2"	1/2"	1/2"	C	.508	.417

**Air Flow to Atmosphere**

MODEL	Air Flow to Atmosphere						Weight	
	80 PSIG CFM	(5.5 BARS) LPM	100 PSIG CFM	(7.0 BARS) LPM	125 PSIG CFM	(8.6 BARS) LPM	ACTUAL LBS	KGS
SQE1	51.0	1443.3	63.0	1782.9	75.0	2122.5	0.17	0.08
SQE2	70.0	1981.0	85.0	2405.5	104.0	2943.2	0.16	0.07
QE2	96.0	2716.8	120.0	3396.0	150.0	4245.0	0.31	0.14
QE3	125.0	3537.5	155.0	4386.5	190.0	5377.0	0.29	0.13
QE4	Consult Factory						0.99	0.45
QE5	Consult Factory						0.93	0.42

**Dimensions**

MODEL	A	B	C	D	E	F	G	H	J	K	L
SQE1	1.09	.55	.81	1.22	1.67	BRACKET NOT AVAILABLE					
SQE2	27.7	13.9	20.5	30.9	62.6						
QE2	1.50	.83	1.25	1.78	2.38	1.14	1.50	2.19	.86	.55	.34
QE3	38.1	21.1	31.8	45.2	60.4	28.9	38.1	55.6	21.8	13.9	.86
QE4	2.18	1.14	1.81	2.78	3.66	1.48	2.00	2.75	1.33	.61	.27
QE5	55.4	28.9	45.9	70.6	92.9	37.5	50.8	69.8	33.7	15.4	.68

Steel brackets 8-1A (14 gauge) and 8-12 (12 gauge) are shipped loose. Mount to valve at 90° increment.

MODEL	Cv
SQE1	.72
SQE2	.97
QE2	1.44
QE3	1.48
QE4	2.09
QE5	4.10

