

# QUICK EXHAUST VALVES

## INTRODUCTION

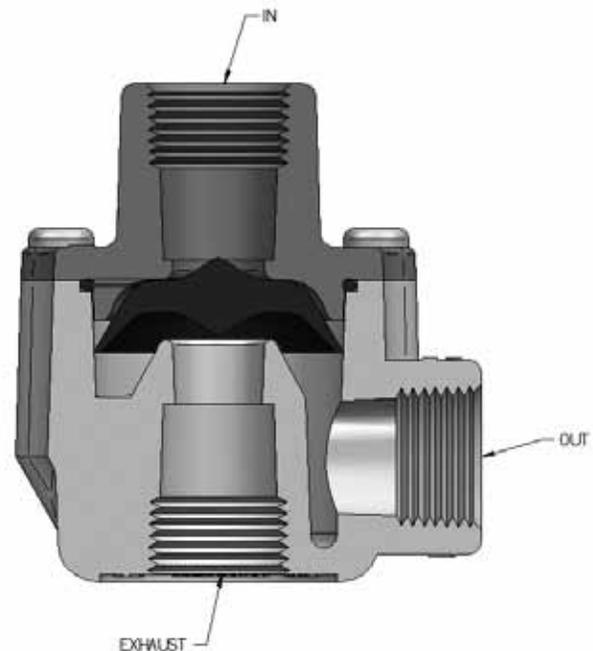
*Quick Exhaust Valves accelerate the speed of pneumatic functions. The valves release pneumatic pressure to atmosphere at a point close to the functioning device (linear cylinders, rotary actuators, volume chambers) versus via the control valve/device, which may be at a greater distance from the functioning device.*

## THE ADVANTAGES OF HUMPHREY'S SUPER QUICK EXHAUSTS ARE THE FOLLOWING:

- Special molded shuttle designed especially for quick exhaust valve service
- Shuttle's full-formed seating surface provides:
  - Long cycle life.
  - Outperforms flat-disk (sheet stock) diaphragms found in competitive designs.
- Shuttle's reinforced center section eliminates flow restricting metal body webbing of flat-disk designs.

## QUICK EXHAUST VALVES CAN ALSO BE USED AS:

- Shuttle valves.
- Check valves.
- Flow/speed control valves.



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

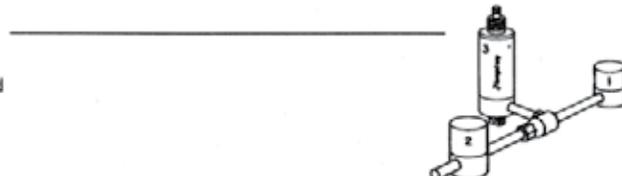
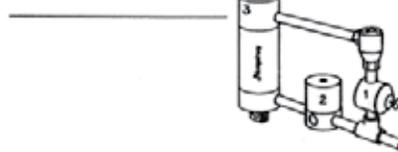
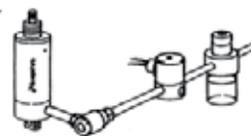
**Lubrication Problem.** Small bore cylinders are often poorly lubricated due to the small displacement of air per cycle. Lubricant back-flows through control valve on the exhaust cycle without reaching cylinder. Oil traces at the valve exhaust port does not prove proper cylinder lubrication.

**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).



|              | <b>QUICK EXHAUST VALVES</b> | <b>Ports</b> | <b>CFM*</b> | <b>Page</b> |
|--------------|-----------------------------|--------------|-------------|-------------|
| <b>SMALL</b> | SQE                         | 10-32        | 7           | 92-93       |
|              | SQE1                        | 1/8          | 63          | 92-93       |
|              | SQE2                        | 1/4          | 85          | 92-93       |
| <b>LARGE</b> | QE2                         | 1/4          | 120         | 92-93       |
|              | QE3                         | 3/8          | 155         | 92-93       |
|              | QE4                         | 1/2          | 373         | 92-93       |
|              | QE5                         | 3/4          | 395         | 92-93       |

*\*Nominal flow @100 psi*



# Quick Exhaust Valves

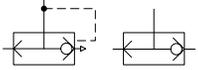
SQE, SQE1, SQE2, QE2, QE3, QE4, QE5

The Humphrey family of Super Quick Exhaust Valves are world renowned for service life and high flow. Available in seven sizes from 10-32 UNF porting to 3/4 PIPE port, Humphrey Quick Exhaust Valves have a bat wing, molded shuttle that totally outperforms competitive flat-disc, sheet stock diaphragm types.

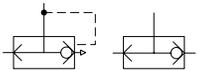
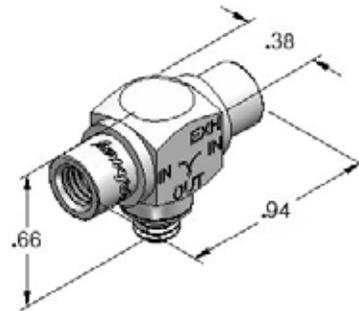
Miniature, brass SQE model, with 10-32 ports, available. See TAC section, pages 72-73.

## Features

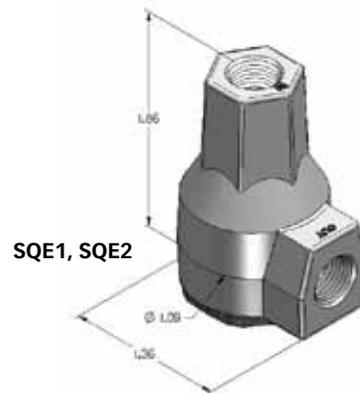
- Mount close nipple to cylinder/actuator port and short circuit exhausting air for super high speed cycling.
- Compact size, high flow.
- Outperforms all others.
- Outlasts all others.
- Also use as a shuttle valve, or plug exhaust port for check valve function.



SQE



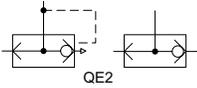
SQE1, SQE2



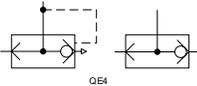
SQE1, SQE2

## SPECIFICATIONS

|                    |                       |                 |                       |
|--------------------|-----------------------|-----------------|-----------------------|
| Design Principle:  | Quick Exhaust         | Flow @100 PSIG: | SQE: 7 CFM (Cv=0.1)   |
| Port Size:         | 10-32 UNF to 3/4 PIPE |                 | SQE1: 63 CFM (Cv=1.1) |
| Media:             | Air, Inert Gases      |                 | SQE2: 85 CFM (Cv=1.4) |
| Pressure Range:    | 0-150 PSIG            |                 | QE2: 120 CFM (Cv=2.0) |
| Temperature Range: | -25° to 180°F         |                 | QE3: 155 CFM (Cv=2.6) |
|                    |                       |                 | QE4: 373 CFM (Cv=6.2) |
|                    |                       |                 | QE5: 395 CFM (Cv=6.6) |



QE2, QE3



QE4, QE5



### HOW TO OBTAIN SPECIFICATIONS FOR A PARTICULAR VALVE(S)

- ☞ Go directly to [www.humphrey-products.com/dynamic/products](http://www.humphrey-products.com/dynamic/products)
- ☞ Or, visit [www.humphrey-products.com](http://www.humphrey-products.com) and select "Online Product Guide."
- Once you have followed the steps to get the valve you need, select "Download Spec Sheet." Doing this will create a personalized PDF of the valve, which you may save to your computer and print at your convenience. These spec sheets are helpful when placing your order(s).

### HOW TO ORDER HUMPHREY VALVES AND ACCESSORIES

- ☞ Go directly to: [www.humphrey-products.com/?q=content/find-distributor](http://www.humphrey-products.com/?q=content/find-distributor)
- ☞ Or, visit [www.humphrey-products.com](http://www.humphrey-products.com), select "Find A Distributor," and input your information to locate a distributor nearest you.
- Or, call Customer Service at 1-800-477-8707 for the name and phone number of your local distributor.



**HUMPHREY PRODUCTS ARE SOLD WORLD-WIDE THROUGH AUTHORIZED DISTRIBUTORS**