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**Title: 2P,4P,4PP,4PPX,3P,31P,31PPX,41P, 41PP,41PPX,42P,42PP,42PA  
TAC Series Valves**

**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.

Humphrey Products Company  
1-800-477-8707  
Kalamazoo MI 49003  
<http://www.humphrey-products.com>

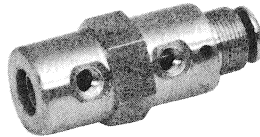
# Humphrey TAC-TAC<sup>2</sup>-TAC<sup>3</sup> Air Valves

Model TAC, TAC<sup>2</sup>, and TAC<sup>3</sup> air valves may be operated by pilot or mechanical operators or manually operated by their push-buttons. Each push-button's shoulder bottoms-out on the valve body to prevent overstroke and valve damage. Operators adapt directly to the threaded button end. The push button itself is constructed of work hardening stainless steel. Appropriate locknuts and lockwashers are furnished. Port sizes are as follows: TAC, #10-32; TAC<sup>2</sup>, 1/8"; TAC<sup>3</sup>, 1/4".



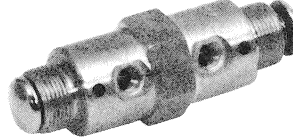
## 2P

Model 2P is a 2-way, normally closed, spring-return valve that can trap downstream pressure if the supply pressure is maintained and not exceeded. Weight: 1.25 oz. (35.4 gms.).



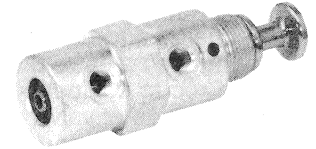
## 4P

Model 4P is a 4-way, normally closed/normally open valve with spring-return. IN and CYL port threads are #10-32 female. EXH ports are not threaded. Weight: 2.8 oz. (79.4 gms.).



## 4PP

Model 4PP is a detented 4-way, normally closed/normally open valve with two push-buttons. IN and CYL port threads are #10-32 female. EXH ports are not threaded. Weight: 2.75 oz. (78 gms.).



## 4PPX

Model 4PPX is a detented version of 4P. It features a push-pull actuator with positive stop. Actuator has a short stroke of 0.093 inch. Weight: 2.8 oz. (67.3 gms.).



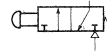
## 3P

Model 3P is a 3-way, normally closed, spring-return valve. IN and CYL port threads are #10-32 female. EXH port is not threaded. Alternate IN port is 1/8" NPT male. Weight: 1.25 oz. (35.4 gm.).



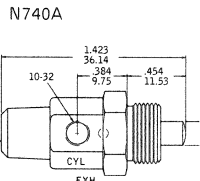
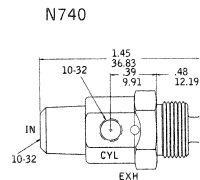
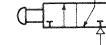
## N740

Model N740 is a 3-way, normally closed, spring-return valve. This valve is used in low pressure, low actuation applications. IN and CYL port threads are #10-32 female. EXH ports are not threaded. Pressure range is 0-15 PSIG. Air flow to atmosphere at 15 PSIG is 1.5 CFM. Actuation force: 6 oz. Weight: 0.96 oz. (30.0 gms.).

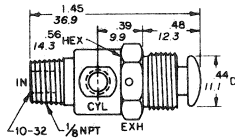


## N740A

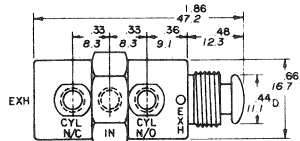
Model N740A is a 3-way, normally closed, spring-return valve. This valve is used in low pressure, low actuation applications. Mechanical operator consists of a shaft with spherical radius on the end. IN and CYL port threads are #10-32 female. EXH ports are not threaded. Pressure range is 0-15 PSIG. Air flow to atmosphere at 15 PSIG is 1.5 CFM. Actuation force: 6 oz. Weight: 0.96 oz. (30.0 gms.).



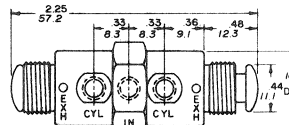
## 2P/3P



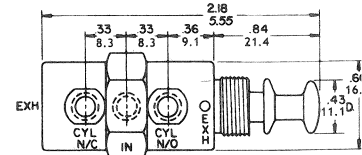
## 4P



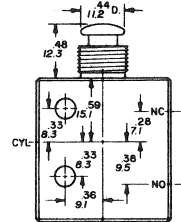
## 4PP



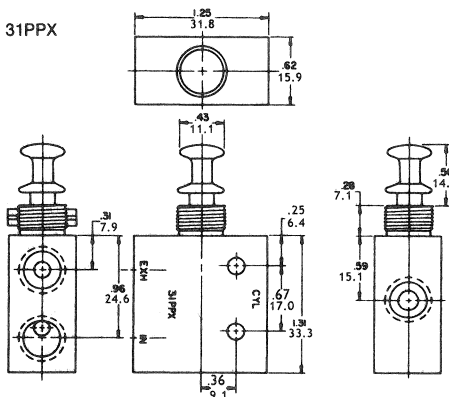
## 4PPX



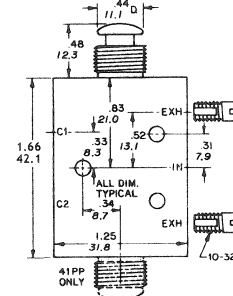
## 31P



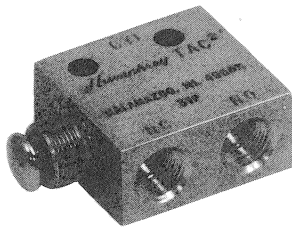
## 31PPX



## 41P/41PP

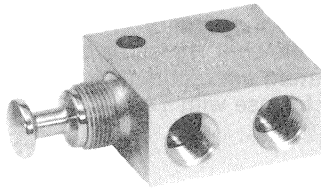
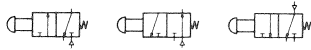


**NOTE:**  
MOUNTING  
THREAD IS  
15/32 - 32 x 9/32



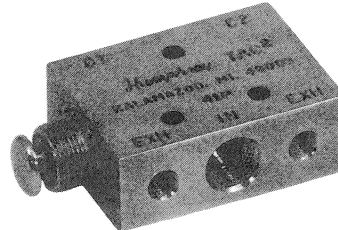
### 31P

Model 31P is a multi-purpose valve with spring-return. Pressure may be applied at any port. The 31P can be used as a 3-way, normally closed/normally open valve, as a diverter or dual-pressure valve, or as a 2-way valve with the unused NC or NO port plugged. The 31P can be mounted with two #10 screws or panel mounted with body threads. Dimensions: 1.31"H x 1.25"W x 0.63"D. Weight: 4.25 oz. (120.5 gms.).



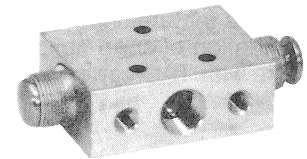
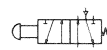
### 31PPX

Model 31PPX is a detented version of 31P. It features a push-pull actuator with positive stop. Actuator has a short stroke of 0.093 inch. Weight: 4.25 oz. (120.5 gms.)



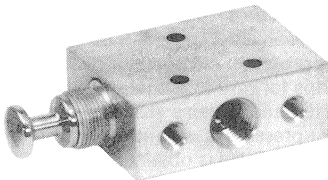
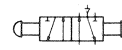
### 41P

Model 41P is a 4-way, normally closed/normally open valve with spring-return. IN and CYL port threads are 1/8" NPT. Exhaust ports are #10-32 female. The 41P is supplied with two #97-21 metering screws for exhaust port flow controls. The 41P can be mounted with three #6 screws or with body threads for bracket or panel mounting. Dimensions: 1.65"H x 1.25"W x 0.63"D. Weight: 5.25 oz. (148.8 gms.).



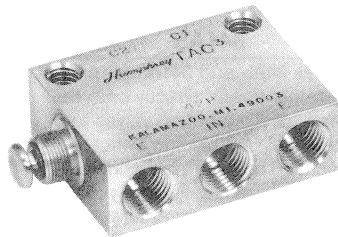
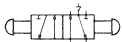
### 41PP

Model 41PP is a detented 4-way, normally closed/normally open valve with two push-buttons. IN and CYL port threads are 1/8" NPT. Exhaust ports are #10-32 female. The 41PP valve is supplied with two #97-21 metering screws for exhaust port flow controls. It can be mounted with three #6 screws or with body threads for bracket or panel mounting. Dimensions: 1.65"H x 1.25"W x 0.63"D. Weight: 5.63 oz. (159.5 gms.).



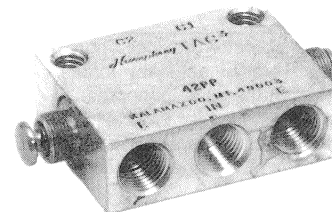
### 41PPX

Model 41PPX is a detented version of 41P. It features a push-pull actuator with positive stop. Actuator has a short stroke at 0.093 inch. Weight: 5.40 oz. (153.1 gms.)



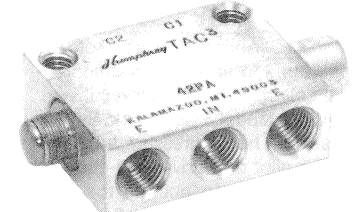
### 42P

Model 42P is a 4-way, 5 port, normally closed/normally open, single push-button, spring-return valve. All ports are 1/4" pipe. This valve can be mounted with two 3/8"-18 UNC screws or with body threads for bracket or panel mounting. Dimensions: 2.25"H x 1.75"W x 0.75"D. Weight 11 oz. (311.9 gms.)



### 42PP

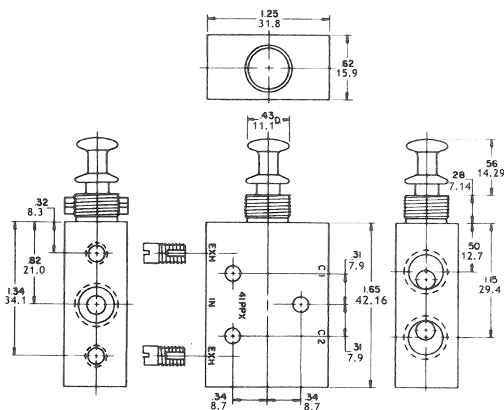
Model 42PP is a 4-way, 5 port, normally closed/normally open, double push-button, detented valve. All ports are 1/4" pipe. This valve can be mounted with two 3/8"-18 UNC screws or with body threads for bracket or panel mounting. Dimensions: 2.25"H x 1.75"W x 0.75"D. Weight 11 oz. (311.9 gms.)



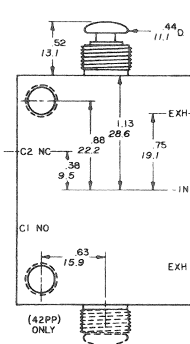
### 42PA

Model 42PA is a 4-way, 5 port, normally closed/normally open, detented valve. One side has push-button; other side has 1/8" air-pilot port. Body ports are 1/4" pipe. This valve can be mounted with two 3/8"-18 UNC screws or with body threads for bracket or panel mounting. Dimensions: 2.25"H x 1.75"W x 0.75"D. Weight 11 oz. (311.9 gms.) Dimensions of air pilot shown in the TAC<sup>3</sup> Air-Piloted Valves section.

41PPX



42P/42PP



**NOTE:**  
MOUNTING  
THREAD IS  
15/32 - 32 x 9/32

## Specifications

### MEDIA:

Compressed Air (Consult factory for others)

### PRESSURE RANGE:

0 to 125 psig (0 to 8.6 bars)

### TEMPERATURE RANGE:

-20 to 180°F (-28.9 to 82.2°C)

### OPERATING SPEEDS:

TAC & TAC<sup>3</sup>: to 900 CPM

TAC<sup>3</sup>: to 600 CPM

### MATERIALS:

Brass, Stainless Steel, Delrin, Buna N

### LUBRICATION

Recommended

FILTRATION Recommended,

40 Microns Minimum

## Air Flow to Atmosphere

| MODEL                               | 25 PSIG<br>CFM | (1.7 BARS)<br>LPM | 125 PSIG<br>CFM | (8.6 BARS)<br>LPM |
|-------------------------------------|----------------|-------------------|-----------------|-------------------|
| 2P, 3P                              | 0.2            | 6.8               | 7.0             | 198.1             |
| 4P, 4PP,<br>4PPX                    | 0.6            | 16.9              | 9.0             | 254.7             |
| 31P, 41P,<br>41PP, 41PPX            | 4.0            | 113.2             | 20.0            | 566.0             |
| 42P, 42PP,<br>M42P, M42PA,<br>M42PP | 10.0           | 283.0             | 39.0            | 1103.7            |

# Humphrey TAC Air Valves

## TAC & TAC<sup>2</sup>

#10-32 and 1/8-inch ports 2-way, 3-way

### VALVES

|             | 2<br>WAY | 3<br>WAY | NORM.<br>CLOSED | NORM.<br>OPEN | DETENTED | SPRING<br>RETURN | MOUNT.<br>BASE<br>(see access.) | PANEL<br>MOUNT.<br>NUTS | FKM**<br>Seals | BRASS<br>BODY | BOTTOM<br>INLET |
|-------------|----------|----------|-----------------|---------------|----------|------------------|---------------------------------|-------------------------|----------------|---------------|-----------------|
| OPTION CODE |          |          |                 |               |          |                  |                                 |                         |                |               | VAI             |
| MODEL       |          |          |                 |               |          |                  |                                 |                         |                |               |                 |
| 2P          | STD      | NA       | STD             | NA            | NA       | STD              | OS                              | STD                     | Specify        | STD           | STD             |
| 2V          | STD      | NA       | NA              | NA            | STD      | NA               | OS                              | STD                     | Specify        | STD           | STD             |
| 2VR         | STD      | NA       | STD             | NA            | NA       | STD              | OS                              | STD                     | Specify        | STD           | STD             |
| 3P          | NA       | STD      | STD             | NA            | NA       | STD              | OS                              | STD                     | Specify        | STD           | STD             |
| 3V          | NA       | STD      | NA              | NA            | STD      | NA               | OS                              | STD                     | Specify        | STD           | STD             |
| 3VR         | NA       | STD      | STD             | NA            | NA       | STD              | OS                              | STD                     | Specify        | STD           | STD             |
| 31P         | *        | STD      | STD             | *             | NA       | STD              | OS                              | STD                     | Specify        | STD           | NA              |
| 31PPX       | *        | STD      | NA              | NA            | STD      | NA               | OS                              | STD                     | Specify        | STD           | NA              |
| 31V         | *        | STD      | STD             | NA            | STD      | NA               | OS                              | STD                     | Specify        | STD           | NA              |
| 31VR        | *        | STD      | STD             | *             | NA       | STD              | OS                              | STD                     | Specify        | STD           | NA              |

\*Plug exhaust port on 31 series for 2-way. For Normally Open, plumb Supply to appropriate port.

\*\*Fluoroelastomer

Order example: 2P

OS indicates part must be ordered separately.

REMEMBER: Option Codes marked STD, NA are not used as part of the Model Number when ordering.

## TAC & TAC<sup>2</sup>

#10-32 and 1/8-inch ports 4-way

### VALVES

|             | NORM. CLSD/<br>NORM. OPEN<br>2 POS | NORM. CLSD/<br>NORM. OPEN<br>3 POS/OPN CTR | DETENTED | SPRING<br>RETURN | 3<br>DETENTED<br>POSITIONS | 3 SPRING<br>RETURN<br>POSITIONS | DETENT<br>SPRING CTR'D<br>DETENT | MOUNT.<br>BASE<br>(see access.) | PANEL<br>MOUNT.<br>NUTS | BRASS<br>BODY | FKM*<br>Seals | BOTTOM<br>INLET |
|-------------|------------------------------------|--|----------|------------------|----------------------------|---------------------------------|----------------------------------|---------------------------------|-------------------------|---------------|---------------|-----------------|
| OPTION CODE |                                    |  |          |                  |                            |                                 |                                  |                                 |                         |               |               | VAI             |
| MODEL       |                                    |  |          |                  |                            |                                 |                                  |                                 |                         |               |               |                 |
| 4P          | STD                                | NA   | NA       | STD              | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 4PP         | STD                                | NA   | STD      | NA               | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 4PPX        | STD                                | NA   | STD      | NA               | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 4V          | STD                                | NA   | STD      | NA               | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 41P         | STD                                | NA   | NA       | STD              | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 41PP        | STD                                | NA   | STD      | NA               | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 41PPX       | STD                                | NA   | STD      | NA               | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 41V         | STD                                | NA   | STD      | NA               | NA                         | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | NA              |
| 41TD3       | NA                                 | STD  | NA       | NA               | STD                        | NA                              | NA                               | OS                              | STD                     | STD           | Specify       | STD             |
| 41TS3       | NA                                 | STD  | NA       | NA               | NA                         | STD                             | NA                               | OS                              | STD                     | STD           | Specify       | STD             |
| 41TDS3      | NA                                 | STD  | NA       | NA               | NA                         | NA                              | STD                              | OS                              | STD                     | STD           | Specify       | STD             |
| 41RD3       | NA                                 | STD  | NA       | NA               | STD                        | NA                              | NA                               | OS                              | NA                      | STD           | Specify       | STD             |
| 41RS3       | NA                                 | STD  | NA       | NA               | NA                         | STD                             | NA                               | OS                              | NA                      | STD           | Specify       | STD             |
| 41RDS3      | NA                                 | STD  | NA       | NA               | NA                         | NA                              | STD                              | OS                              | NA                      | STD           | Specify       | STD             |

For 42 Series TAC<sup>3</sup> Valves, see TAC<sup>3</sup> Air Piloted and Push-Button Valves, p. 12 of Humphrey Price List.

\*Fluoroelastomer

Order example: 41P-VAI

OS indicates part must be ordered separately.

REMEMBER: Option Codes marked STD, NA are not used as part of the Model Number when ordering.

## AIR/MANUAL/MECHANICAL OPERATORS

### OPERATORS

#### Air Pilot Operators

|             | Fluoroelastomer Seals |
|-------------|-----------------------|
| OPTION CODE | VAI                   |
| MODEL       |                       |
| 34A         | NA                    |
| 34AS        | Specify               |
| 34AR        | Specify               |
| 34ASR       | NA                    |
| 341A        | NA                    |
| 341AS       | Specify               |
| 341AR       | Specify               |
| 341ASR      | NA                    |

Order example: 341AR-VAI

NOTE: Valves and Accessories are shipped detached, ready to be mounted according to specific application requirements.  
REMEMBER: Option Codes marked STD, NA are not used as part of the Model Number when ordering.

#### Manual & Mechanical Operators

| MODEL  |
|--------|
| 34B    |
| 34C    |
| 34CW   |
| 34CH   |
| 28-60A |
| 34F    |
| 34T    |

Order example: 34F