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**Title: 2V, 3V, 4V, 31V, 41V, 41T, 41R TAC Valves**

**ISO Date:** April 10, 2006

#### **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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# Humphrey TAC and TAC<sup>2</sup> Manual Air Valves

Although these toggle, rocker, and push-pull valves have their primary application in general industrial and instrumentation applications (including control panels), they are also widely used in mobile equipment and adapt well to vehicle dashboards. V and PPX models are 2-position, 3-way and 4-way valves; V models have single-direction throw with pinned lever. 41T and 41R models are rugged, 3-position, 4-way valves which can be used as a 2-position or 3-position valve.



## 2V 3V

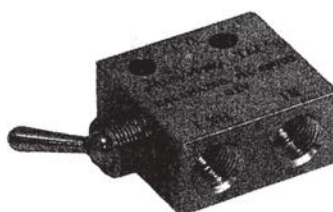
Model 2V is a 2-position, 2-way, normally closed, detented valve, having a single direction throw with pinned lever. The 2V has no exhaust port and will trap downstream pressure if supply pressure is maintained but not exceeded. IN and CYL port threads are #10-32 female. Alternate IN is 1/8-inch NPT male. These valves are furnished with locknuts and lockwashers for 15/32-32 x 9/32 toggle collar threads. Weight: 1.25 oz. (35.2 gms.).

Model 3V is a 3-way version of the 2V valve.



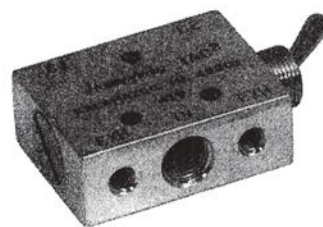
## 4V

Model 4V is a 2-position, 4-way, normally closed/normally open, detented valve, which can be converted to 3-way by plugging one CYL port with Humphrey PF fitting. IN and CYL ports are #10-32 female. These valves have single-direction throw with pinned lever and are furnished with locknuts and lockwashers for 15/32-32 x 9/32 toggle collar threads. Weight: 2.38 oz. (67.3 gms.).



## 31V

Model 31V is a 2-position, 3-way, normally closed, detented valve with single-direction throw with pinned lever. It can be used as a 2-way valve by plugging the exhaust port. Ports are 1/8-inch NPT. The 31V valve can be mounted with two #10 screws or with body threads for bracket or panel mounting. Dimensions: 1.31"H x 1.25"W x 0.63"D. Weight: 4.25 oz. (120.5 gms.).

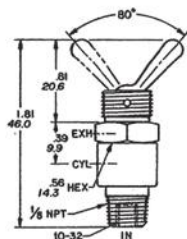


## 41V

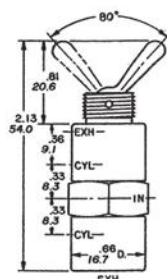
Model 41V is a 2-position, 4-way, normally closed/normally open, detented valve with single-direction throw with pinned lever. Exhaust may be captured by removing port flow controls and using Humphrey BF or BF1 fittings. Exhaust may be muffled with Humphrey 150-30A muffler. Exhaust ports have #10-32 threads; all other ports have 1/8-inch NPT threads. Furnished with exhaust port flow controls. The 41V may 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.).



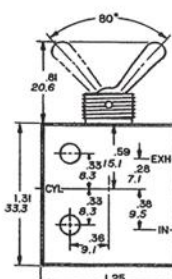
## 2V/3V



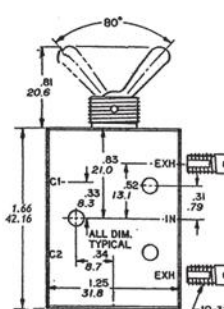
## 4V



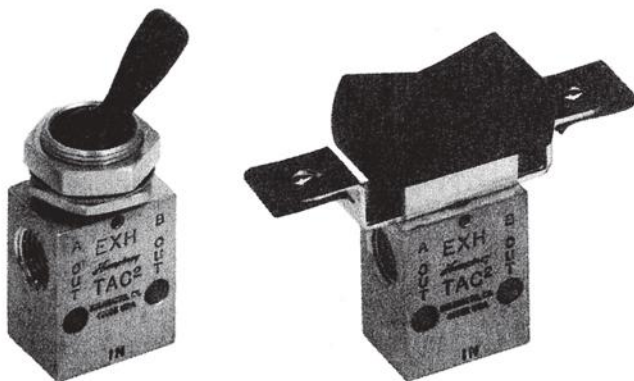
## 31V



## 41V

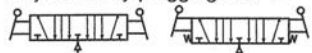


**NOTE:**  
MOUNTING  
THREAD IS  
15/32 - 32 x 9/32



## 41T 41R

Models 41T and 41R are 3-position, 4-way valves with several functional options. They may be detented or spring-return or both. They can be used as 2-position valves by bypassing position #2. They can be used as 3-way valves by plugging A or B

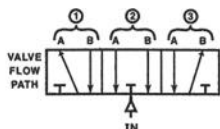


port. These valves have separate unthreaded exhaust ports at 180° and rugged matte black toggle or rocker actuators. All models may be side mounted. Toggle valves may be panel mounted with two supplied locknuts (0.187-inch and 0.93-inch thick) and lockwasher. Flow is 7.5 scfm at 125 psig. Weight: 3 oz. (85 gms.)

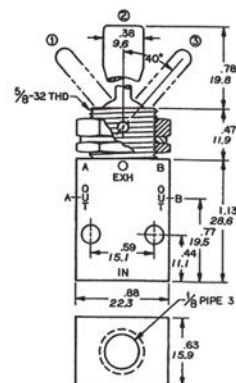


TOGGLE-ROCKER ACTION BY POSITION

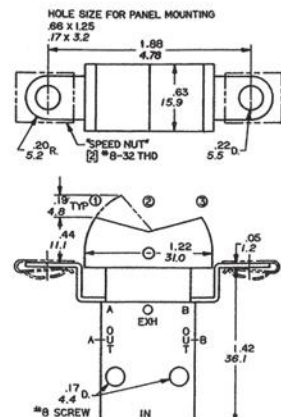
TOGGLE NO.	1	2	3	ROCKER NO.
41T-D3	Detent	Detent	Detent	41R-D3
41T-S3	Spring-Return	Detent	Spring-Return	41R-S3
41T-DS3	Detent	Detent	Spring-Return	41R-DS3



41T



41R



## 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>2</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 CFM	(1.7 BARS) LPM	125 PSIG CFM	(8.6 BARS) LPM
2V, 3V	0.2	6.8	7.0	198.1
4V	0.6	16.9	9.0	254.7
31V, 41V	4.0	113.2	20.0	566.0
41T 41R	2.0	56.6	7.0	198.1



# Humphrey TAC Air Valves

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

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

### VALVES

	2 WAY	3 WAY	NORM. CLOSED	NORM. OPEN	DETENTED	SPRING RETURN	MOUNT. BASE (see access.)	PANEL MOUNT. NUTS	FKM** Seals	BRASS BODY	BOTTOM 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/ NORM. OPEN 2 POS	NORM. CLSD/ NORM. OPEN 3 POS/OPN CTR	DETENTED	SPRING RETURN	3 DETENTED POSITIONS	3 SPRING RETURN POSITIONS	DETENT SPRING CTR'D DETENT	MOUNT. BASE (see access.)	PANEL MOUNT. NUTS	BRASS BODY	FKM* Seals	BOTTOM 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	STD	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	STD	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