

# Pneumatically Actuated Diaphragm Valve DIASTAR 025



## General

- **Size:** 2½"–6"
- **Material:** PVC, CPVC, PROGEF® Standard PP, SYGEF® Standard PVDF, SYGEF® Plus PVDF-HP
- **Diaphragm:** EPDM, FPM, NBR, CSM, PTFE/EPDM, PTFE/FPM, PTFE-HP/EPDM, PTFE-HP/FPM
- **Actuator Housing:** Glass-filled PP
- **End Connection:** ANSI 150lb flange
- **Action:** FC, FO, DA
- **Top Works:** Bolted connection to valve body
- **Standard Pack Quantity:** 1 valve

## Key Certifications

- **FDA CFR 21 177.1520:** PP and PVDF
- **FDA CFR 21 177.2600:** EPDM and FPM
- **FDA CFR 21 177.1550:** PTFE
- **USP Class VI (physiological non-toxic):** EPDM, FPM, PTFE, PP and PVDF

## Definition of Connection Type

- **2½" (d75):** Spigot body with fused flange adapter and loose flange ring
- **3" - 6" (d90 - d160):** Fully molded body with integrated fixed flange

## Sample Specification

The DIASTAR 025 shall be rated for bidirectional pressure. The valve body shall be a fully molded, single piece fixed flange design. The actuator shall be fully molded glass-filled polypropylene and available in fail-safe to close, fail-safe to open and double acting configurations. The stroke shall be indicated by an optical indicator. The body to actuator connection shall be of square type, utilizing metal body bolts. The pilot solenoid connection shall be of NAMUR type. DIASTAR 025 ANSI versions shall meet ANSI B16.5 150lb standards. All valves shall be tested in accordance to ISO9393 and designed to ISO16136 standards. All valves shall be manufactured under ISO9001 for Quality and ISO14001 for Environmental Management. Following assembly, every valve shall be tested and certified bubble tight exceeding Class VI standards. PVC valves shall meet ASTM D1784 cell classification 12454 standards. CPVC valves shall meet ASTM D1784 cell classification 23447-B standards. PP valves shall meet ASTM D5847-14 cell classification PP0510B66851 standards. PVDF valves shall be type 1, grade 2 according to ASTM D3222 standards. Valves of all materials shall be RoHS compliant.

## Optional Features

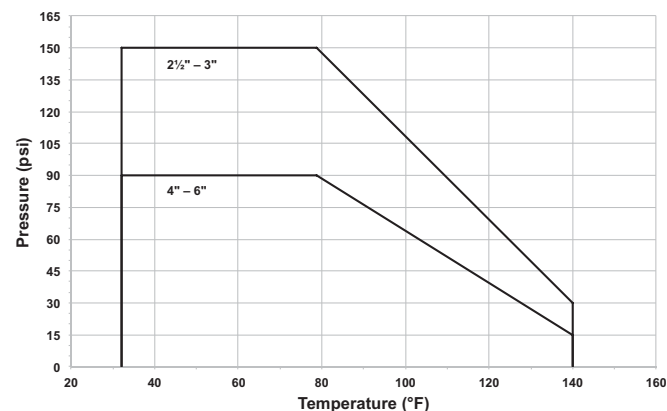
- **Pilot Valve:** 24VAC/DC, 110VAC, 2303VAC
- **Positioner:** Digital electro-pneumatic
- **Limit Switches:** Mechanical, inductive
- **Stroke:** Limiter/manual override
- **Material:** ABS
- **Hardware:** Alternatives available upon request
- **End Connection:** ISO/DIN flange, union
- **Cleaned:** Silicone/oil free

## Technical Data

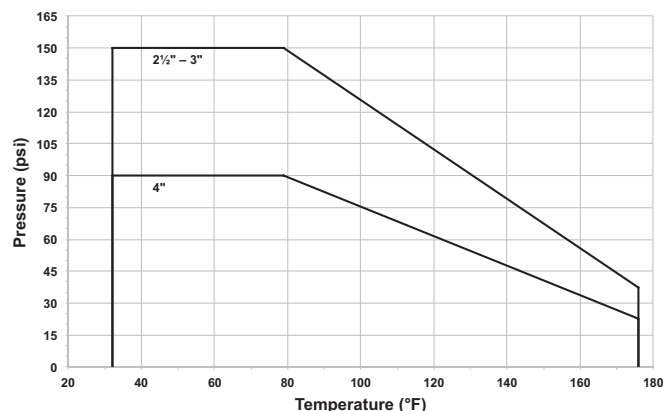
### Pressure-Temperature Curves

The following graphs are based on a lifetime of 25 years of water or similar media applications

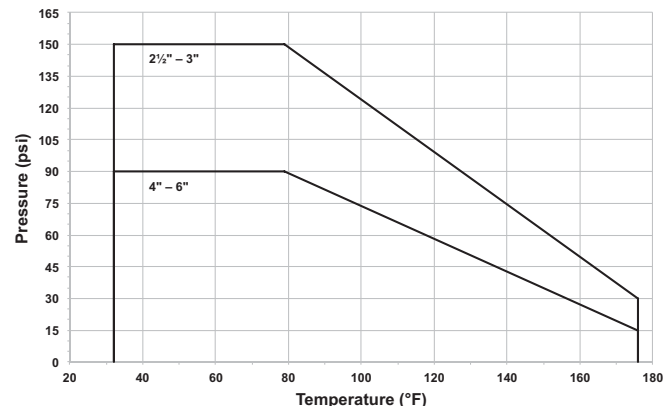
#### PVC



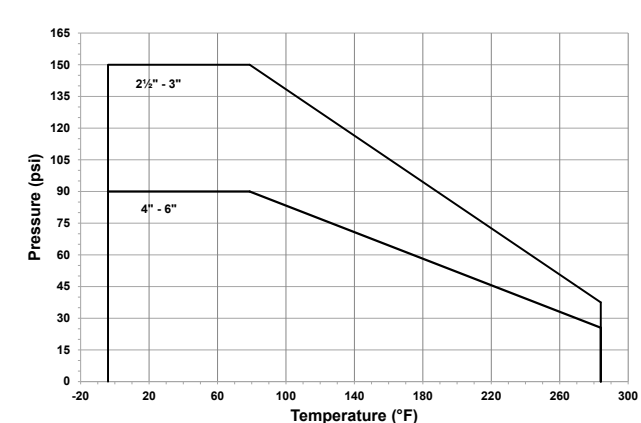
#### CPVC



#### PP



#### PVDF



#### Pressure-Temperature

Material	Temperature Range (°F)	Max Pressure (psi)
PVC	32 to 140	150
CPVC	32 to 176	150
PP/PPn	32 to 176	150
ABS	-40 to 140	150
PVDF	-4 to 284	150

\*Dependant on size as shown in P-T curves

#### Material Availability

Material	Range (inch)	Range (mm)
PVC	2-6	75-160
CPVC	2-4	75-110
PP	2-6	75-160
PVDF	2-6	75-160

#### Diaphragm Availability

Material	Range (inch)	Range (mm)
EPDM	2-6	75-160
FPM	2-6	75-160
NBR	2-6	75-160
CSM	2-6	75-160
PTFE/EPDM	2-6	75-160
PTFE/FPM	2-4	75-110
PTFE-HP/EPDM	2-6	75-160
PTFE-HP/FPM	2-4	75-110

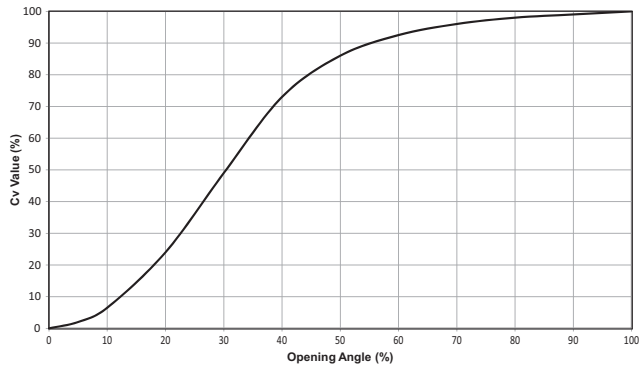
#### Vacuum Service

DIASTAR 025 Valves are not rated for full vacuum service. Maximum differential pressure of 7.5 psi at 122°F.

## Flow

The following information is based on water applications at 68° F

### Flow Characteristics



### Cv Values

Size	Cv (gal/min)
2½	69.5
3	119.0
4	189.0
6	422.3



## Control Media

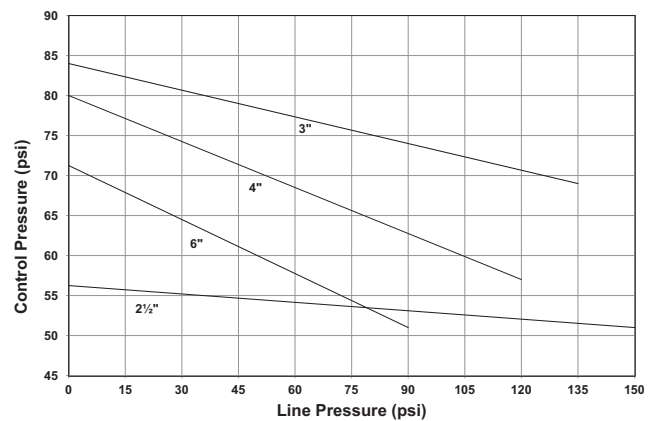
The following information is based on applications at standard conditions

### Volume

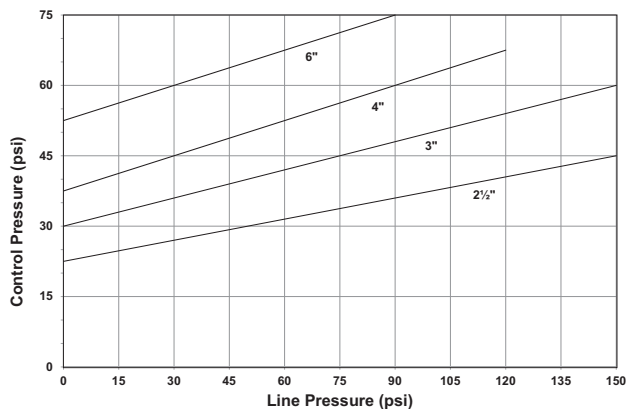
Size	FC (in³)	FO (in³)	DA Close (in³)	DA Open (in³)
2½	134	269	269	134
3	134	269	269	134
4	232	464	464	232
6	232	464	464	232

- 90 psi max. for FC actuators
- 75 psi max for FO or DA actuators
- Control media shall be compressed oil-free air or inert, non-aggressive gas
- 104°F max. temperature

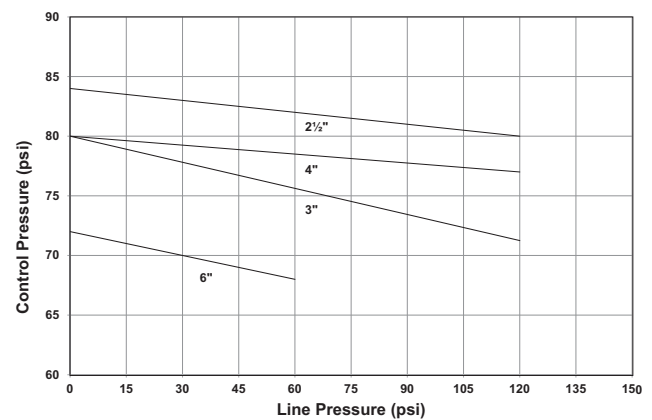
### Fail-Safe Close Elastomeric



### Fail-Safe Open/Double Acting Elastomeric and PTFE

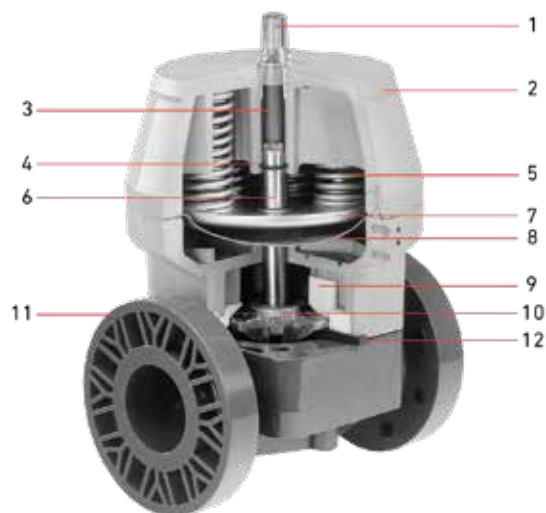


### Fail-Safe Close PTFE



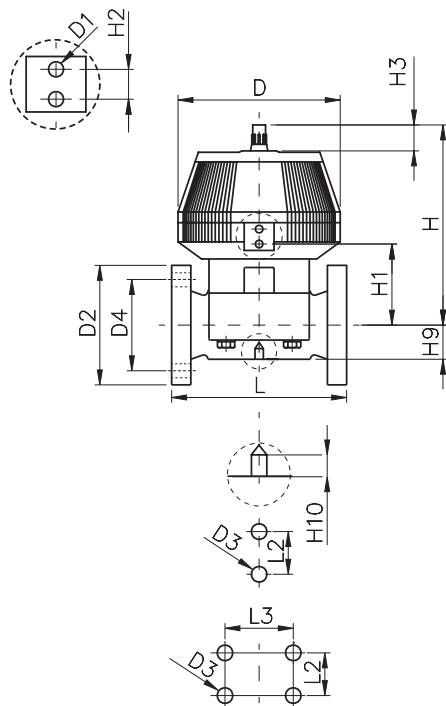
## Components

Component	Description	Material
1	Indicator cap	SAN
2	Housing	Glass-filled PP
3	Position indicator	PPb
4	Piston seal	NBR
5	Spring	Galvanized steel
6	Piston	1.4104 stainless steel
7	Pressure plate	Galvanized steel
8	Actuator diaphragm	Polychloroprene
9	Compressor plate	Glass-fill PP
10	Compressor	Galvanized steel
11	Valve body	PVC, CPVC, PP, PVDF
12	Diaphragm	EPDM, FPM, NBR, CSM, PTFE



## Dimensions

The following tables are shown in millimeters unless otherwise specified. Dimensions for ANSI B 16.5 Class 150 flanged valves shown, 3" and 6" (d90 and d160) are also compatible with DIN 2501 flanges.



### All Materials

Size (inch)	d (mm)	D	D1	D2	D3	D4 (inch)	H	H1
2½	75	280	G¾	185	M8	5.5	344	148
3	90	280	G¾	200	M12	6.3	348	150
4	110	335	G¾	225	M12	7.5	395	176
6	160	335	G¾	285	M12	9.5	455	237

### All Materials

Size (inch)	d (mm)	H2	H3	H9	H10	L	L2	L3
2½	75	24	46	46	15	290	70	-
3	90	24	46	57	15	310	120	-
4	110	24	46	69	20	350	120	-
6	160	24	46	108	20	480	100	200

## Weight

Size	d (mm)	PVC (lb)	CPVC (lb)	PP (lb)	PVDF (lb)
2½	75	29.9	29.9	30.1	31.2
3	90	38.3	39.6	35.2	41.1
4	110	54.3	54.3	50.2	58.3
6	160	77.0	-	73.5	84.0