



**Sales Representative:**

**Date:**

**Job Name:**

**Job Location:**

**Engineer:**

**Contractor:**

**Sales Order #:**

**Wilo Packaged Booster Systems**

**Submittal**

The following Submittal is for **APPROVAL** and we are withholding the order from entry for production, awaiting receipt of approved data.

The following Submittal is for **RECORD PURPOSES ONLY**

**Note: When for approval, an attached copy of this sheet returned with your release, will facilitate identification and handling.**

*Signature Required*

Approved for Production: \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_ Print Name: \_\_\_\_\_



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- Certifications
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## Certifications



UL QCZJMH60113

UL NSF 61/372

UL 508

UL 698

Packaged Booster System

Packaged Booster System

Control Panels

Control Panels

## Wilo Packaged Booster Systems

### All Packaged Booster Systems:

- Tested to applicable UL Standards
- Wet tested for system performance
- Certified to NSF/ANSI 61/372 UL Listing
- Certified to UL Packaged System QCZJMH60113 listing
- Control Panels built and certified to UL 508 and UL 698 listing



## Booster Pump System Scope

To: \_\_\_\_\_ Date: \_\_\_\_\_  
Attn: \_\_\_\_\_  
Job Name: \_\_\_\_\_ Job Location: \_\_\_\_\_  
Sales Order #: \_\_\_\_\_  
Booster Model #: \_\_\_\_\_

---

### Booster System Data

<b>Motor Data</b>	
HP	
RPM	
Voltage	
Phase	
Full Load Amps	

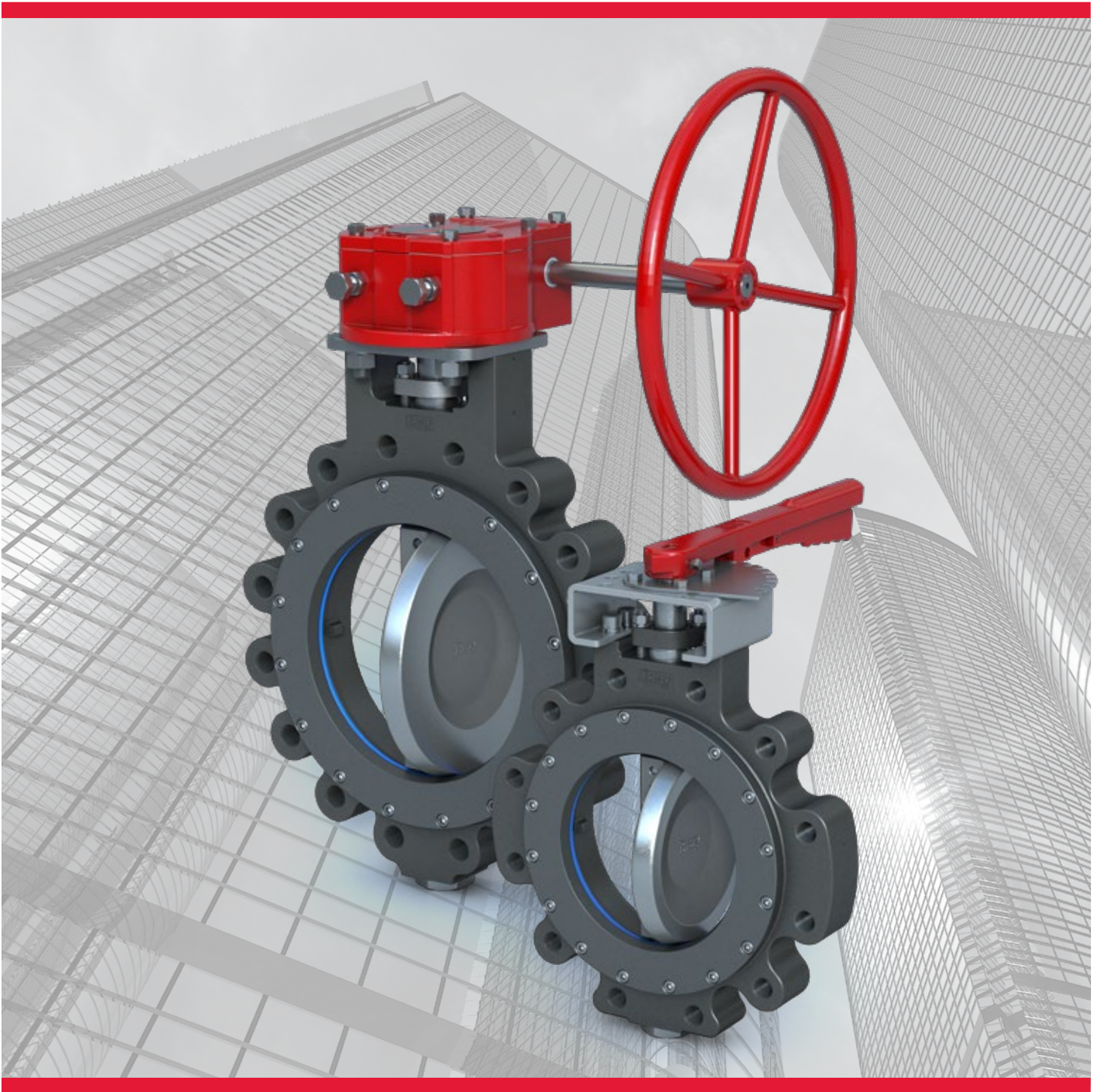
<b>System Data</b>	
Flow (GPM)	
Suction PSI	
Boost PSI	
Discharge PSI= Suction PSI + Boost PSI	
Pump Quantity	
% Flow per Pump	

#### Wilo Pre-Packaged Pumping System

- Pumps, controls and headers are mounted on a steel plated skid base for indoor installation.
- Each system is performance tested for rated gpm and boost pressure
- List optional construction features separate

Options:





**SERIES 43 HIGH PERFORMANCE BUTTERFLY VALVES**  
High Performance, High Pressure, High Temperature, Zero Leakage



Date:

Inquiry / P.O. #

Order #

Submitted by:

Customer:

Project:

**SERIES 43 HIGH PERFORMANCE BUTTERFLY VALVE**

Part #

Quantity:

Tag(s):

Valve Size:

**MATERIAL SPECIFICATIONS**

Body:

Seat:

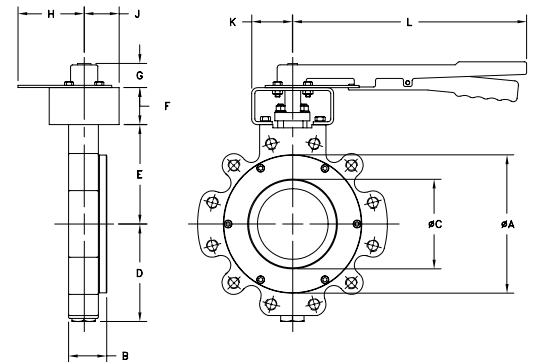
Disc:

Stem:

**Series 43 with Lever**

S43 Valve Size													Lug Bolting Data		
	A	B	C	D	E	F	G	H	J	K	L	BC	No. of Holes	Threads UNC-2B	
2 1/2"	4.75	1.88	2.28	3.81	4.29	2.09	1.25	2.95	1.25	2.18	10.00	5.88	8	.75-10	
3"	5.22	1.88	2.86	4.09	4.54	2.09	1.25	2.95	1.25	2.18	10.00	6.63	8	.75-10	
4"	6.72	2.03	3.72	4.71	5.41	2.09	1.25	2.95	1.25	2.18	10.00	7.88	8	.75-10	
5"	7.62	2.23	4.83	5.07	5.12	2.38	1.25	4.25	2.25	2.56	15.00	9.25	8	.75-10	
6"	8.62	2.23	5.88	5.57	5.62	2.38	1.25	4.25	2.25	2.56	15.00	10.62	12	.75-10	

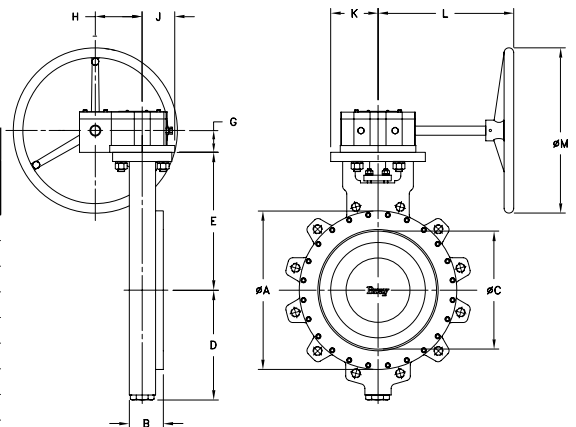
C = absolute minimum pipe ID at valve face (without gasket).



**Series 43 with Gear Box**

S43 Valve Size	Gear Operator												Lug Bolting Data		
		A	B	C	D	E	G	H	J	K	L	M	BC	No. of Holes	Threads UNC-2B
8"	30:1	10.94	2.82	7.56	7.55	10.00	1.25	2.62	2.95	2.95	7.50	8.00	13.00	12	.88-9
10"	80:1	13.26	3.28	9.44	9.36	11.38	2.38	4.56	4.14	4.14	14.81	12.00	15.25	16	1.00-8
12"	80:1	15.57	3.62	11.31	10.89	13.50	2.38	4.56	4.14	4.14	14.81	12.00	17.75	16	1.12-8
14"	80:1	17.24	4.66	11.38	12.50	18.25	2.38	4.56	4.14	4.14	14.88	18.00	20.25	20	1.12-8
16"	150:1	19.50	5.35	14.31	13.88	21.00	4.00	6.11	6.89	6.89	16.89	18.00	22.50	20	1.25-8
18"	150:1	21.38	5.98	15.00	15.43	21.00	4.00	6.11	6.89	6.89	20.52	24.00	24.75	24	1.25-8
20"	150:1	23.76	6.34	16.50	16.80	22.25	4.00	6.11	6.89	6.89	20.52	24.00	27.00	24	1.25-8
24"	350:1	28.75	7.05	20.68	19.80	25.75	4.00	6.11	6.89	6.89	20.52	24.00	32.00	24	1.50-8

C = absolute minimum pipe ID at valve face (without gasket).



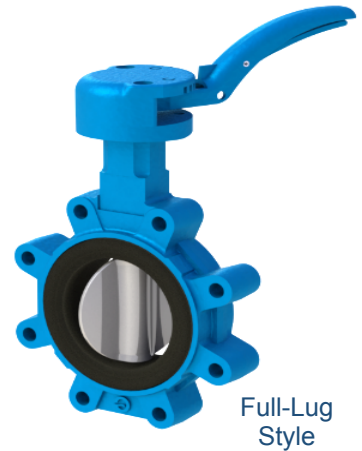
APPROVAL:

ADDITIONAL INFORMATION:

# BUTTERFLY VALVES



## SYLAX® 3 BUTTERFLY VALVES



Wafer Style

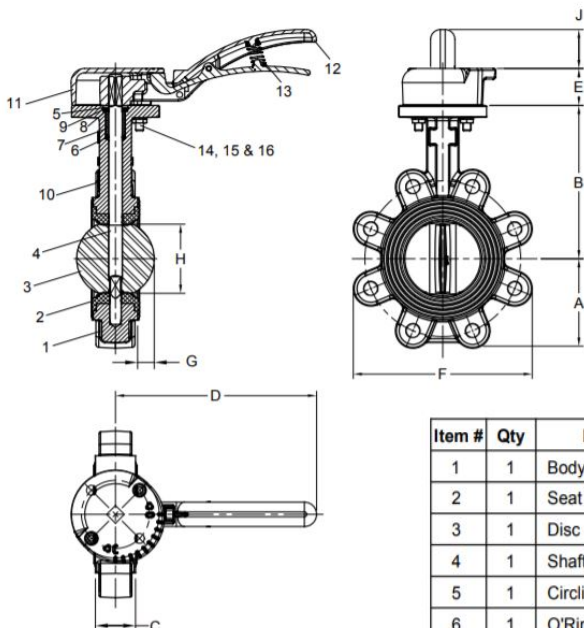
Full-Lug Style

### Benefit and Features

- Wafer or Full-Lug Style
- Standard Ductile Iron Body and SS Disc
- Self centering valve disc
- Square driven shaft/disc for higher torques
- Extended service life with upper and lower anti-friction bearings.
- Provides bi-directional Service and Dead-end service
- NSF/ANSI 61 & 372 Certified
- ANSI 125/250 Flange connections
- Exclusive 10 Position Lockable handle design
- Standard ISO 5211 Top Flange
- Optional Gear, Electric or Air actuation
- Pressure Max: 250 PSI (Bi-Directional)
- Working Temp: Max 220°F (104°C)

The **Fromatic SYLAX® 3** is a proven butterfly valve design for demanding applications; Booster Pumping Systems, HVAC systems and other industrial applications where quality and higher performance are most important.

The **SYLAX® 3** is designed and built strong including standard ductile iron valve body, 316SS Disc is standard, 420SS stainless steel stem, EPDM Seat. The valve is rated 250 PSI bi-directional & dead end rating. With 220°F max. temperature rating NSF/ANSI 61 & 372 certified, for use with ANSI 125/150# flanges with lockable 10 position handle and standard ISO 5211 top flange for easy actuation. Available with Gear Box or several other Actuator options.



Size Inch	Part #	B Inch	C Inch	D Inch	E Inch	F Inch	G Inch	H Inch	J Inch	Weight lbs
2"	S3L04	5.67	1.69	8.15	1.50	4.93	0.21	2.12	1.5	10.2
2.5"	S3L05	6.02	1.81	8.15	1.50	5.47	0.38	2.57	1.5	11.6
3"	S3L06	6.22	1.81	8.15	1.50	5.63	0.6	3.14	1.5	12.1
4"	S3L07	6.93	2.05	8.15	1.50	8.34	1.04	4.14	1.5	18.5
5"	S3L08	7.52	2.2	8.15	1.50	9.4	1.46	5.13	1.5	22.9
6"	S3L09	7.97	2.2	10.51	1.18	10.50	1.97	6.14	NA	27.3
8"	S3L10	9.59	2.36	14.02	1.58	12.70	2.95	8.14	NA	45
10"	S3L11	10.75	2.68	19.29	1.58	15.59	3.70	9.97	NA	66.5
12"	S3L12	12.24	3.07	19.29	1.58	18.18	4.46	11.90	NA	92.7

Item #	Qty	Description	Material	Item #	Qty	Description	Material
1	1	Body	Ductile Iron A536 65-45-12	9	1	Washer	Stainless Steel 304
2	1	Seat	EPDM	10	1	Metal Tag	Aluminium
3	1	Disc	Stainless Steel 316	11	1	Cap	Ductile Iron A536 65-45-12
4	1	Shaft	Stainless Steel 420	12	1	Lever Assembly	Ductile Iron A536 65-45-12
5	1	Circlip	Steel XC 75/Stainless Steel	13	1	Spring	Carbon Steel
6	1	O'Ring	NBR	14	2	SHC Screw	Zinc Plated Carbon Steel
7	1	Bushing	Nylon 1010	15	2	Stop Washer	Zinc Plated Carbon Steel
8	1	Circlip	Steel XC 75/Stainless Steel	16	2	Nut	Zinc Plated Carbon Steel



# Butterfly Valve

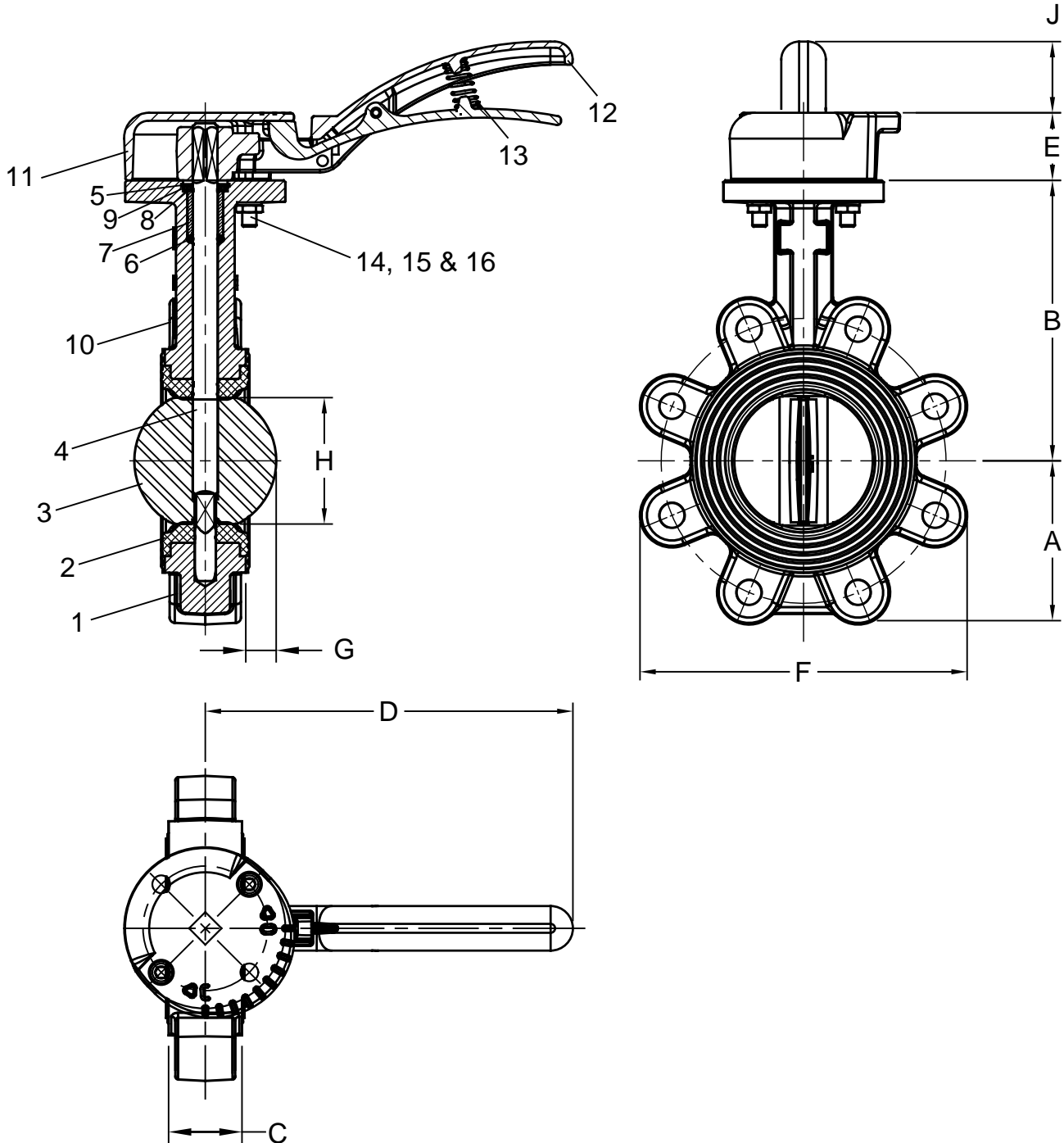
# Lug with Lever

Sizes 2" Thru 5" / 50 mm Thru 125 mm

Sylax® 3 **FLOMATIC®**

Flomatic Corporation

## Materials



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# Butterfly Valves

# Lug with Lever

Sylax® 3 **FLOMATIC**

Sizes 2" Thru 5"/ 50 mm Thru 125 mm

Flomatic Corporation

## Materials



Max Temp 220°F (104°C)  
Max Pressure 250psi (17bar)

Bi-Directional & Dead End Service Pressure Rating 250psi (17 bar)

Item #	Qty	Description	Material	Item #	Qty	Description	Material
1	1	Body	Ductile Iron A536 65-45-12	9	1	Washer	Stainless Steel 304
2	1	Seat	EPDM	10	1	Metal Tag	Aluminium
3	1	Disc	Stainless Steel 316	11	1	Cap	Ductile Iron A536 65-45-12
4	1	Shaft	Stainless Steel 420	12	1	Lever Assembly	Ductile Iron A536 65-45-12
5	1	Circlip	Steel XC 75/Stainless Steel	13	1	Spring	Carbon Steel
6	1	O'Ring	NBR	14	1	SHC Screw	Zinc Plated Carbon Steel
7	1	Bushing	Nylon 1010	15	2	Stop Washer	Zinc Plated Carbon Steel
8	1	Circlip	Steel XC 75/Stainless Steel	16	2	Nut	Zinc Plated Carbon Steel

## Dimensions (ASME B16.5 150# Flange / ISO 5211 Top Flange)

Size		Part #	A		B		C		D		E		F		G		H		J		Wgt Lug	
inch	mm		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	lbs	kg
2	50	S3L04	2.5	65	5.67	144	1.69	43	8.15	207	1.50	38	4.93	125	.21	5	2.12	54	1.50	38	10.2	4.6
2-1/2	65	S3L05	2.8	72	6.02	153	1.81	46	8.15	207	1.50	38	5.47	139	.38	10	2.57	65	1.50	38	11.6	5.3
3	80	S3L06	3.4	86	6.22	158	1.81	46	8.15	207	1.50	38	5.63	143	.66	17	3.14	80	1.50	38	12.1	5.5
4	100	S3L07	4.2	107	6.93	176	2.05	52	8.15	207	1.50	38	8.34	212	1.04	27	4.14	105	1.50	38	18.5	8.4
5	125	S3L08	4.7	119	7.52	191	2.20	56	8.15	207	1.50	38	9.40	239	1.46	37	5.13	130	1.50	38	22.9	10.4

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# Globe Style

# Silent Check

# Model 402BT



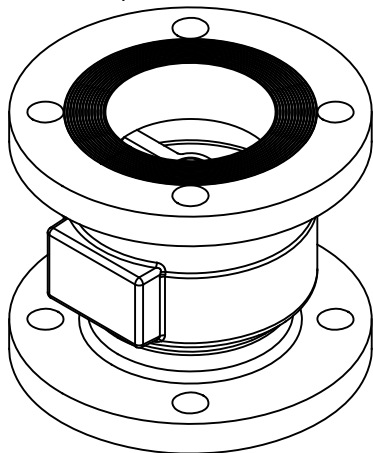
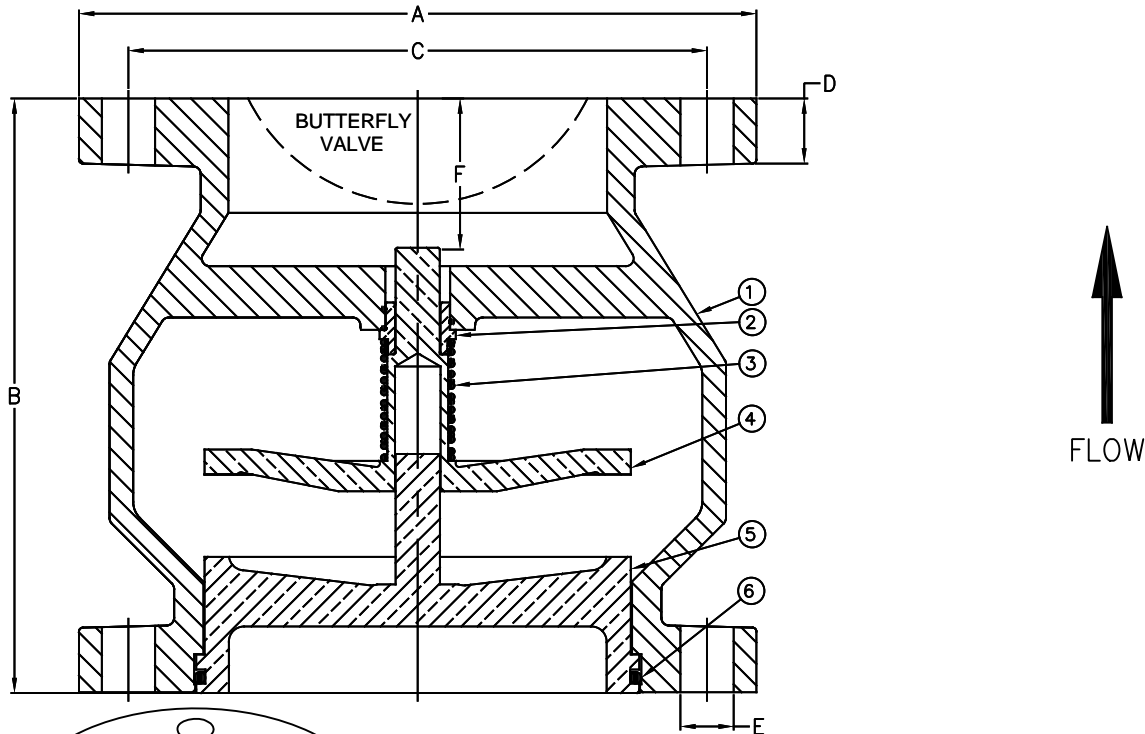
Flomatic Corporation

Sizes 2" Thru 6" / 50 mm Thru 150 mm  
150# Flange

LEAD FREE  
NSF/ANSI 61



## Materials



Item #	Qty	Description	Material	ASTM
1	1	Body (Epoxy Coated)	Ductile Iron	A536 65-45-12
2	1	Bushing	Bronze	C95400
3	1	Spring	Stainless Steel	302
4	1	Poppet	Silicone Brass	C87800
5	1	*Seat Ring	Bronze	C89833
6	1	O-Ring	EPDM	5778-70

\*OPTIONAL RESILIENT SEAT AVAILABLE, ADD "R" TO THE PART NUMBER

Max Temp 200°F (93°C)

Max Inlet Pressure @ 150° F (65°C) 150# 300 psi (21bar)

MSS SP-125 Compliant

PATENT # 6,024,121

## Dimensions (150# Ansi B16.42 Flanges)

Size		Part #	ØA		B		ØC		D		ØE		F		Weight		Bolt Size	# of Bolts
inch	mm		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	lbs	kg		
2	50	2239BT	6	152	5-1/4	133	4-3/4	121	5/8	16	3/4	19	1-19/64	33	13	6	5/8	4
2-1/2	65	2240BT	7	178	5-1/2	140	5-1/2	140	11/16	18	3/4	19	1-1/16	27	18	8	5/8	4
3	80	2241BT	7-1/2	191	6	152	6	152	3/4	19	3/4	19	1-3/8	35	23	10	5/8	4
4	100	2242BT	9	229	7-1/4	184	7-1/2	191	15/16	24	3/4	19	1-19/32	41	40	18	5/8	8
5	125	2243BT	10	254	8-1/2	216	8-1/2	216	15/16	24	7/8	22	2	51	51	23	3/4	8
6	150	2244BT	11	279	9-3/4	248	9-1/2	241	1	25	7/8	22	2-7/16	62	75	34	3/4	8

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April 4, 1995  
Dwg No: S402BT-1 Rev: N (3/20)

FLOMATIC CORPORATION  
GLENS FALLS, N.Y. 12801  
PHONE (518) 761-9797  
FAX (518) 761-9798



# GLOBE STYLE SERIES 402

Models 402BT and 402ST are ductile iron Globe Style Check Valves with fusion bonded epoxy coating and model 402S6 is constructed of all 316 stainless steel. The series 402 features ANSI B16.1 class 150# flanged connection and bronze or stainless steel poppet and seat with a stainless steel spring (2" - 12"). Optional EPDM rubber seat seal is available and recommended in all sizes, simply add "R" to the end of the part number.

## OPERATION

The double guided spring loaded poppet system maximizes efficiency and reduces water hammer while preventing flow reversal. The stainless steel spring provides for long maintenance free operation.

## APPLICATIONS

- Municipal Water
- General Utilities
- Power Generation
- Food Processing
- Industrial
- Irrigation
- HVAC



**TEMP MAX:** 200°F (93°C) - Higher Temp Available Contact Factory



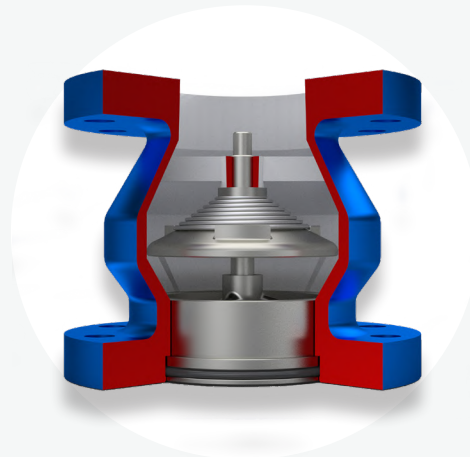
**SIZES:** 2" THRU 24"

## FEATURES & BENEFITS

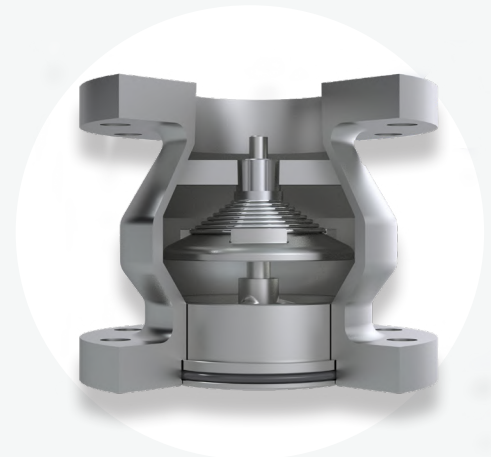
- MINIMIZES WATER HAMMER
- LOW HEADLOSS
- 100% FUSION BONDED EPOXY COATED
- LOW CRACKING PRESSURE
- NO INTERNAL SCREWS
- FIELD REPLACEABLE INTERNALS
- NSF/ANSI 61 AND NSF/ANSI 372
- MEETS MSS-SP 125
- AIS MODELS AVAILABLE (CONSULT FACTORY)



**MODEL 402BT/402BTR**  
SIZES 2" - 24"



**MODEL 402ST/402STR**  
SIZES 2" - 24"\*  
\*10" SS trim inquire with factory



**MODEL 402S6/402S6R**  
SIZES 2 1/2" THRU 12"\*  
\*10" inquire with factory



**Max Pressure 300 PSI at 150°F** - Ductile Iron 2" - 12"  
**Max Pressure 250 PSI at 150°F** - Ductile Iron 16", 20", 24"  
**Max Pressure 150 PSI at 150°F** - Cast Iron 14" & 18"

Consult factory for pressure rating standards.



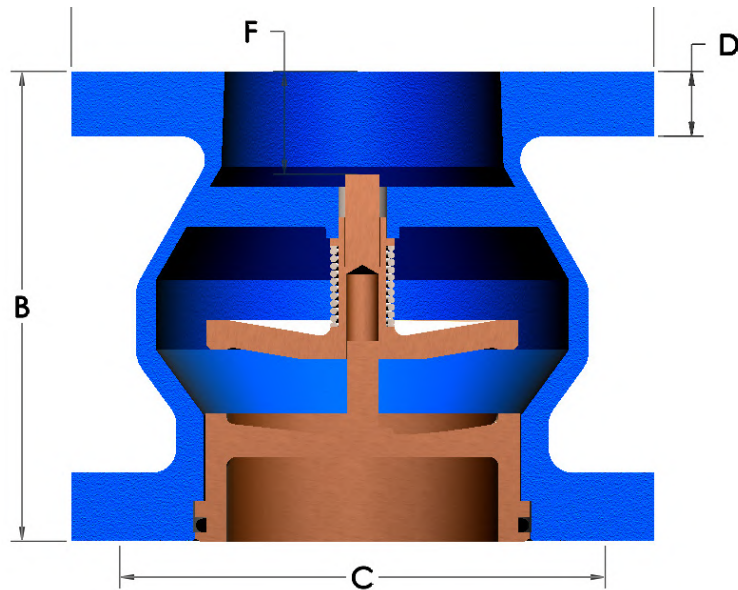
**Max Pressure 275 PSI at 100°F**  
Consult factory for pressure rating standards.

# MATERIALS OF CONSTRUCTION

## SERIES 402 OPTIONS

MODEL	SIZES	TYPE	BODY MATERIAL	SEAT TRIM	SEAT
402BTR*	2" - 24"	OPTIONAL	DUCTILE IRON ASTM A536	UNLEADED BRONZE C87800	EPDM
402BT*	2" - 24"	STANDARD	DUCTILE IRON ASTM A536	UNLEADED BRONZE C87800	METAL
402STR*	2" - 24"***	OPTIONAL	DUCTILE IRON ASTM A536	316 SS ASTM CF8M	EPDM
402ST*	2" - 24"***	OPTIONAL	DUCTILE IRON ASTM A536	316 SS ASTM CF8M	METAL
402S6R	2" - 12"***	STANDARD	316 SS ASTM CF8M	316 SS ASTM CF8M	EPDM
402S6	2" - 12"***	OPTIONAL	316 SS ASTM CF8M	316 SS ASTM CF8M	METAL

\* 14" & 18" sizes are cast iron  
 \*\* 10" SS trim inquire with factory



## DIMENSIONS

SIZE ØA		PART #	ØA		B		ØC		D		F (OPEN)		WEIGHT		BOLT SIZE	#OF BOLTS
INCH	MM		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LBS	KG		
2"	50	2239BT	6"	152	5 1/4"	133	4 3/4"	121	5/8"	16	1 19/64"	33	13	6	5/8"	4
2 1/2"	65	2240BT	7"	178	5 1/2"	140	5 1/2"	140	11/16"	18	1 1/16"	27	18	8	5/8"	4
3"	80	2241BT	7 1/2"	191	6"	152	6"	152	3/4"	19	1 3/8"	35	23	10	5/8"	4
4"	100	2242BT	9"	229	7 1/4"	184	7 1/2"	191	15/16"	24	1 19/32"	41	40	18	5/8"	8
5"	125	2243BT	10"	245	8 1/2"	216	8 1/2"	216	15/16"	24	2"	51	51	23	3/4"	8
6"	150	2244BT	11"	279	9 3/4"	248	9 1/2"	241	1"	25	2 7/16"	62	75	34	3/4"	8
8"	200	2245BT	13 1/2"	343	12 9/16"	319	11 3/4"	299	1 1/8"	29	3 1/4"	83	116	53	3/4"	8
10"	250	2247BT	18"	457	15 1/2"	394	14 1/4"	362	1 3/16"	30	4 1/4"	108	194	88	7/8"	12
12"	300	2248BT	19"	483	14 1/2"	368	17"	432	1 1/4"	32	13/16"	21	306	139	7/8"	12
14"	350	2249BT	21"	533	15 3/4"	400	18 3/4"	476	1 3/8"	35	1 7/16"	37	380	172	1"	12
16"	400	2250STR	23 1/2"	597	17 5/8"	448	21 1/4"	540	1 7/16"	37	2 1/4"	57	500	227	1"	16
18"	450	2251BT	25"	635	18 3/4"	476	22 3/4"	578	1 9/16"	40	2 1/4"	57	724	328	1 1/8"	16
20"	500	2252STR	27 1/2"	699	20 5/8"	524	25	635	1 11/16"	43	2 15/16"	75	890	404	1 1/8"	20
24"	600	225STR	32"	813	24"	610	29 1/2"	749	1 7/8"	48	3 5/8"	92	1220	553	1 1/4"	20

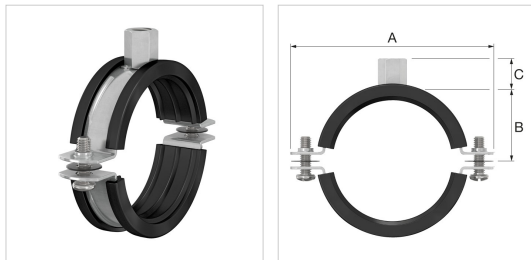
**AIS MODELS AVAILABLE. CONSULT WITH FACTORY**

FOR REFERENCE USE ONLY, SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

## Product Data Sheet (2018-05-22)

### BSI Clips

BSI clips are rubber lined universal clips for mounting pipes to the wall or ceiling.



Type	Ø Pipe		Connection	Strip dimensions [mm]	Max. working load [N]	Dimensions			###	Order Code
	Ext. dia. [mm]	Nom. ["]				A [mm]	B [mm]	C [mm]		
<b>BSI M 8/10 x 8 - 10</b>	8 - 10	1/8	M 8/10	20 x 1.5	1000	53	13	16	50	39023
<b>BSI M 8/10 x 12 - 14</b>	12 - 14	1/4	M 8/10	20 x 1.5	1000	58	15	16	50	39000
<b>BSI M 8/10 x 15 - 19</b>	15 - 19	3/8	M 8/10	20 x 1.5	1000	62	18	16	50	39001
<b>BSI M 8/10 x 20 - 25</b>	20 - 25	1/2	M 8/10	20 x 1.5	1000	69	21	16	50	39002
<b>BSI M 8/10 x 26 - 30</b>	26 - 30	3/4	M 8/10	20 x 1.5	1000	74	23	16	50	39003
<b>BSI M 8/10 x 32 - 36</b>	32 - 36	1	M 8/10	20 x 1.5	1000	81	26	16	50	39004
<b>BSI M 8/10 x 38 - 43</b>	38 - 43	1 1/4	M 8/10	20 x 1.5	1000	87	30	16	50	39005
<b>BSI M 8/10 x 44 - 49</b>	44 - 49	1 1/2	M 8/10	20 x 1.5	1000	94	33	16	50	39006
<b>BSI M 8/10 x 50 - 55</b>	50 - 55		M 8/10	20 x 1.5	1000	103	36	16	50	39007
<b>BSI M 8/10 x 56 - 61</b>	56 - 61	2	M 8/10	20 x 1.5	1000	106	39	16	50	39008
<b>BSI M 8/10 x 62 - 67</b>	62 - 67		M 8/10	20 x 2.0	1300	113	42	16	50	39009
<b>BSI M 8/10 x 68 - 73</b>	68 - 73		M 8/10	20 x 2.0	1300	123	45	16	50	39010
<b>BSI M 8/10 x 75 - 80</b>	75 - 80	2 1/2	M 8/10	20 x 2.0	1300	128	48	16	50	39011
<b>BSI M 8/10 x 82 - 86</b>	82 - 86		M 8/10	20 x 2.0	1300	134	51	16	50	39012
<b>BSI M 8/10 x 87 - 92</b>	87 - 92	3	M 8/10	20 x 2.0	1300	141	54	16	50	39013
<b>BSI M 8/10 x 95 - 102</b>	95 - 102	3 1/2	M 8/10	20 x 2.5	2150	158	58	16	50	39014

Type	Ø Pipe		Connection	Strip dimensions [mm]	Max. working load [N]	Dimensions			###	Order Code
	Ext. dia. [mm]	Nom. ["]				A [mm]	B [mm]	C [mm]		
<b>BSI M 8/10 x 108 - 116</b>	108 - 116	4	M 8/10	20 x 2.5	2150	170	65	16	25	39015
<b>BSI M 10/12 x 108 - 116</b>	108 - 116	4	M 10/12	20 x 2.5	2150	170	65	18	25	39035
<b>BSI M 8/10 x 121 - 127</b>	121 - 127		M 8/10	20 x 2.5	2150	185	70	16	25	39016
<b>BSI M 8/10 x 131 - 141</b>	131 - 141	5	M 8/10	20 x 2.5	2150	195	77	16	25	39017
<b>BSI M 10/12 x 131 - 141</b>	131 - 141	5	M 10/12	20 x 2.5	2150	195	77	18	25	39037
<b>BSI M 8/10 x 159 - 163</b>	159 - 163		M 8/10	20 x 2.5	2150	215	88	16	25	39018
<b>BSI M 10/12 x 159 - 163</b>	159 - 163		M 10/12	20 x 2.5	2150	215	88	18	25	39038
<b>BSI M 8/10 x 165 - 169</b>	165 - 169	6	M 8/10	20 x 2.5	2150	226	91	16	25	39019
<b>BSI M 10/12 x 165 - 169</b>	165 - 169	6	M 10/12	20 x 2.5	2150	226	91	18	25	39039
<b>BSI M 8/10 x 192 - 202</b>	192 - 202		M 8/10	20 x 3.0	3000	265	107	16	25	39020
<b>BSI M 8/10 x 210 - 220</b>	210 - 220	8	M 8/10	20 x 3.0	3000	274	117	16	25	39022
<b>BSI M 10/12 x 210 - 220</b>	210 - 220	8	M 10/12	20 x 3.0	3000	274	117	18	25	39034



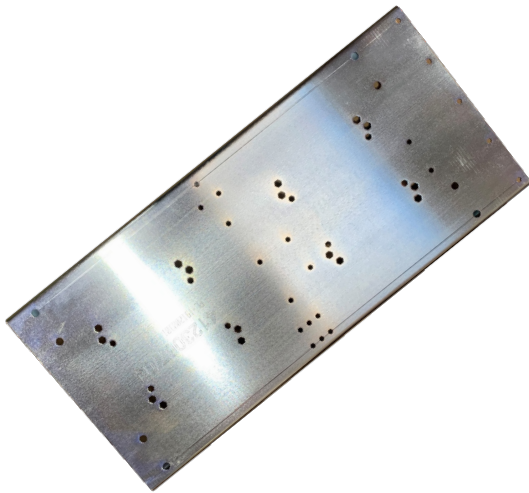
## Advantages

- Fitted with two bolts with anti-loss ring.
- Bolt with slot and cross head.
- Reinforcement grooves ensure that BSI clips maintain their shape.

## Technical information

- Noise suppressing rubber lining (EPDM): 17 dB(A) according to ISO 3822-1.  
To achieve maximum sound suppression do not overload the fitting.
- Safety margin for minimal breaking load (V) = 3.
- Clip: Electrolytically zinc plated.
- Suitable for temperatures -40 °C to +120 °C.
- BSI clips are compatible with pipe sizes according to DIN 2448 and DIN EN 1057.

## Standard Baseplate



- Nickel Plated Steel
- 0.25" Thick Rolled/Formed
- Efficient Space Saving Design
- Design fit for best per pump space utilization
- Ideally suited for narrow entranceways and installation footprints

## Foot Mounts



- Rugged multi-function adjustable foot supports
- Buna rubber shell with steel core and threaded rod fastener
- Allows for adjustable levelling
- Limits noise migration
- Evens load support



## Manifolds



- 304 Stainless Steel welded tube
- Matched suction and discharge sizes
- Taps for pressure gauges, pressure transducers, optional tank mount, and drain
- SS and IOS electropolished tube



- Class 150 or 300 ANSI Flanged



- Male NPT



- Grooved End

## Mini Shut-Off Valves



- One each per Gauge/Transducer/Tank/Drain Port
- Stainless Steel - NPT
- Allows for component serviceability



# PLC VFD Booster Pump Control Panel

## Color Touchscreen with Variable Frequency Drives (VFD)

Type 4 Steel Enclosure – U/L Label

8199

### PLC VFD Panel Features

- The 8199 controls two to four booster pumps
- It is a deluxe, full featured panel that includes motor overload protection, a thru-the-door disconnect, alarm horn, PLC, VFDs (1 per pump).
- The PLC features include color touchscreen and BMS communication via Modbus and isolated contacts.
- Provides ability to operate pumps at varied frequency (Hz) by VFD control
- Type 4 enclosure for indoor or outdoor use. With type 12 venting.
- Provides special pump sequencing program for maximum system operational efficiency.



### PLC VFD Panel Includes

- U/L Listed Label
- PLC with color touch screen
- Modbus communication
- Power supply for control circuit. Transient surge voltage protection.
- Hour meters – one per pump, re-settable
- One lockable panel disconnect; through-the-door with door interlock. The mechanical interlock prevents the door from being opened when the disconnect is in the ON position (Lock NOT included)
- Padlocking hasp on outer door (Padlock NOT included)
- Lockable pump disconnects, on motor overload protector. (Lock is not provided)
- Overloads – one per pump. Ambient compensated bimetallic (class 10) motor overload circuit protector. Instantaneous magnetic trip for short circuit protection. Single-phase short circuit protection for three-phase motors. Field adjustable within the amp range.
- Alarm, 95 dB horn with silence button on touchscreen
- Control terminal board numbered and wired
- Layout and schematic CAD diagrams are provided. Installer connections at terminal board are clearly marked.
- Type 12 venting kit (fan and exhaust)

### VFD Features:



- Compact Design
- Constant torque
- LCD Display
- Easy programming
- Wide ambient temperature operating range
- Energy efficient
- Integrated Modbus

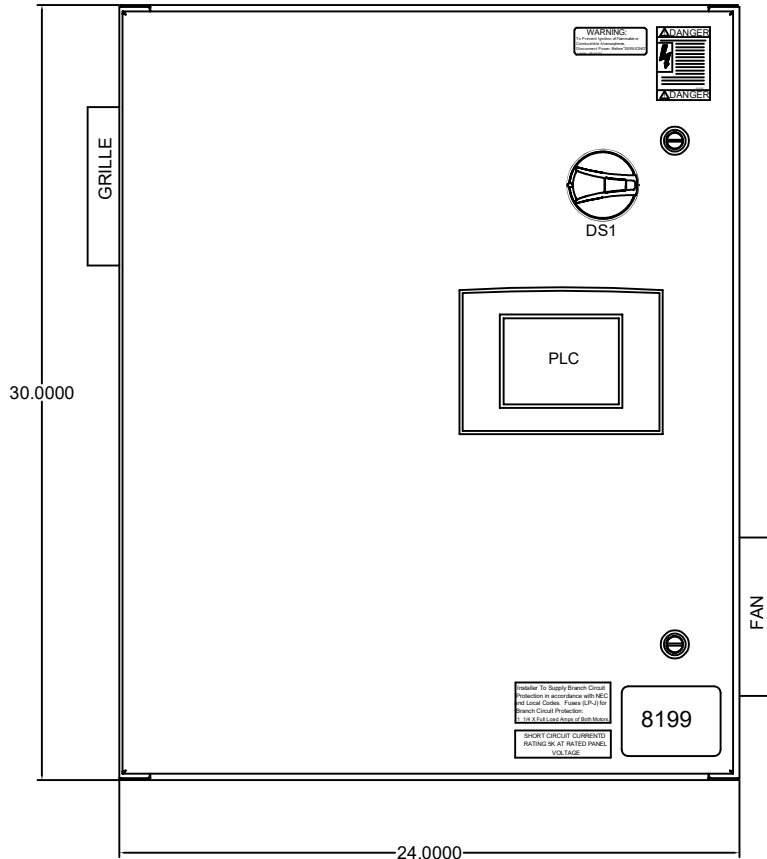
Motor Protector Amp Range	Order Number		
	Three Phase 208 Volts	Three Phase 230 Volts	Three Phase 460 Volts
1.0 - 1.6	8199-T-016B	8199-T-016C	8199-T-016D
1.6 - 2.5	8199-T-025B	8199-T-025C	8199-T-025D
2.5 - 4.0	8199-T-040B	8199-T-040C	8199-T-040D
4.0 - 6.3	8199-T-063B	8199-T-063C	8199-T-063D
6.3 - 10.0	8199-T-100B	8199-T-100C	8199-T-100D
10.0 - 16.0	8199-T-160B	8199-T-160C	8199-T-160D
16.0 - 20.0	8199-T-200B	8199-T-200C	8199-T-200D
20.0 - 25.0	8199-T-250B	8199-T-250C	8199-T-250D
25.0 - 32.0	8199-T-320B	8199-T-320C	8199-T-320D
32.0 - 40.0	8199-T-400B	8199-T-400C	8199-T-400D
40.0 - 50.0	8199-T-500B	8199-T-500C	8199-T-500D

Specify Duplex, Triplex, or Quadplex when ordering.

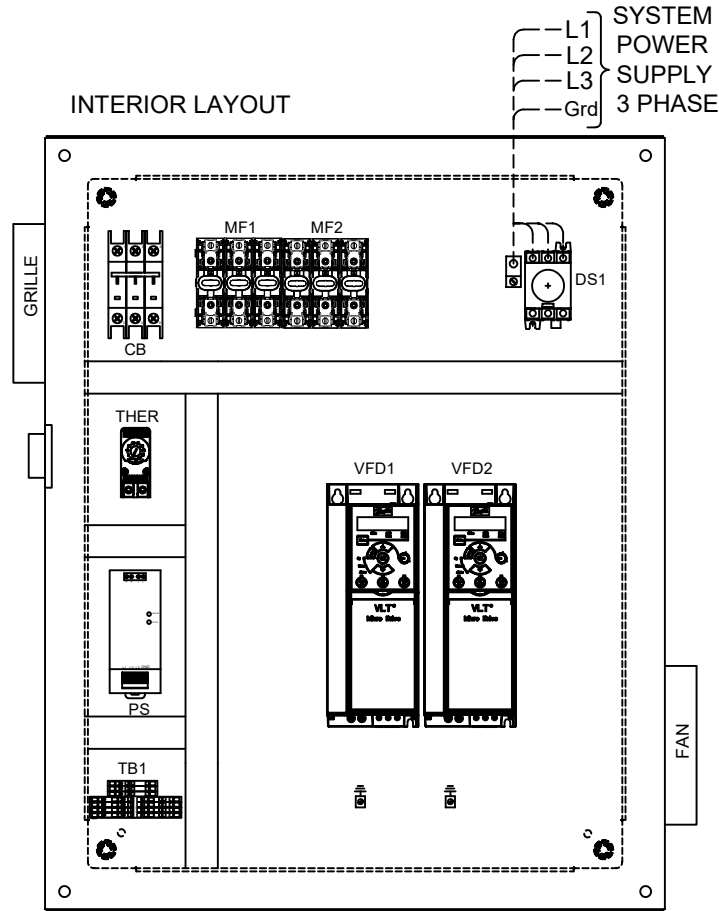
## 8199 DUPLEX LAYOUT

Typical Enclosure Size: 30 X 24 X 10

COVER VIEW



INTERIOR LAYOUT

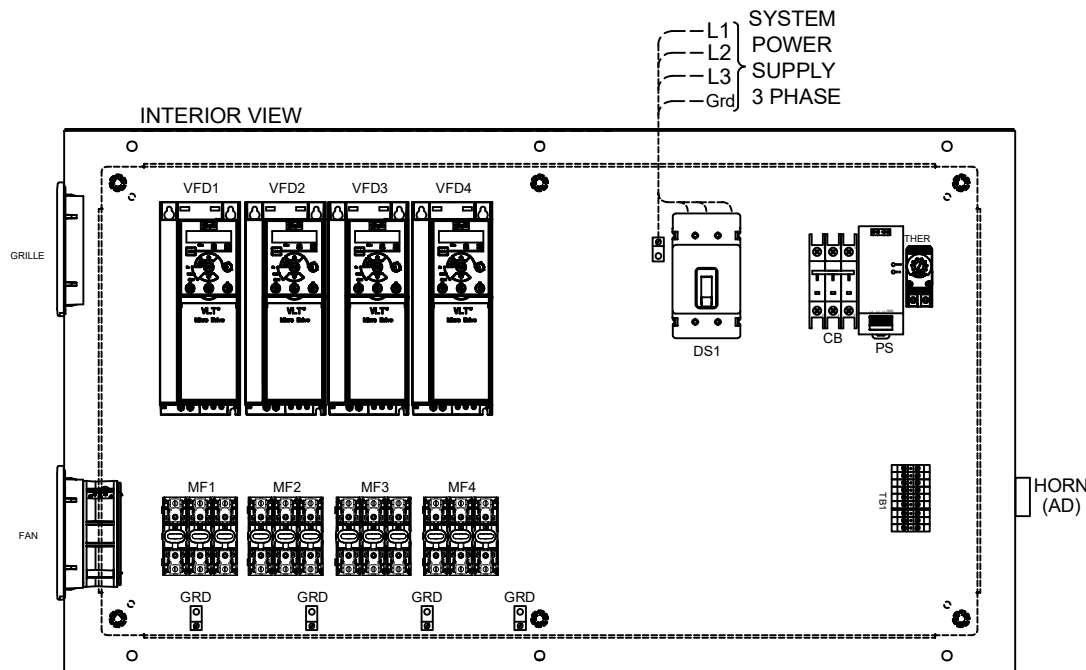
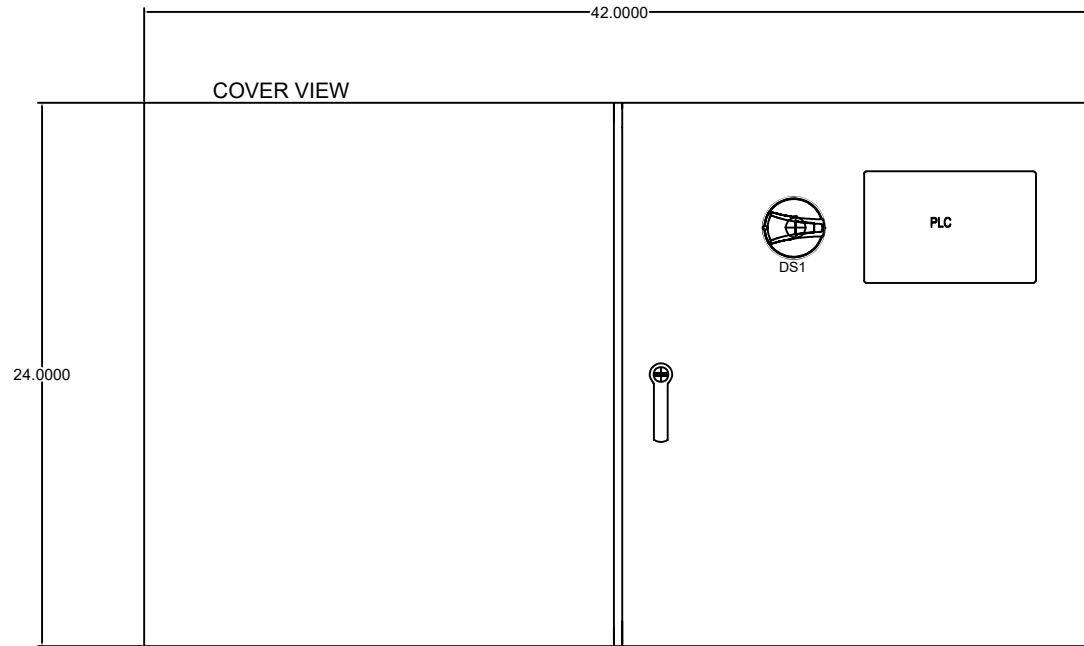


### 8199 Duplex Systems:

Voltage:	HP:	Enclosure Size:
208-230	1.0	30H X 24W X 10D
208-230	2.0	30H X 24W X 10D
208-230	3.0	30H X 24W X 10D
208-230	5.0	30H X 24W X 10D
208-230	7.5	30H X 24W X 10D
208-230	10.0	30H X 24W X 10D
208-230	15.0	36H X 30W X 12D
208-230	20.0	42H x 42W x 12D
460	1.0	30H X 24W X 10D
460	2.0	30H X 24W X 10D
460	3.0	30H X 24W X 10D
460	5.0	30H X 24W X 10D
460	7.5	30H X 24W X 10D
460	10.0	30H X 24W X 10D
460	15.0	30H X 24W X 10D
460	20.0	30H X 24W X 10D
575	1.0	30H X 24W X 10D
575	2.0	30H X 24W X 10D
575	3.0	30H X 24W X 10D
575	5.0	30H X 24W X 10D
575	7.5	30H X 24W X 10D
575	10.0	30H X 24W X 10D
575	15.0	36H X 30W X 12D
575	20.0	36H X 30W X 12D

## 8199 QUADRAPLEX LAYOUT

Typical Enclosure Size: 24 X 42 X 12

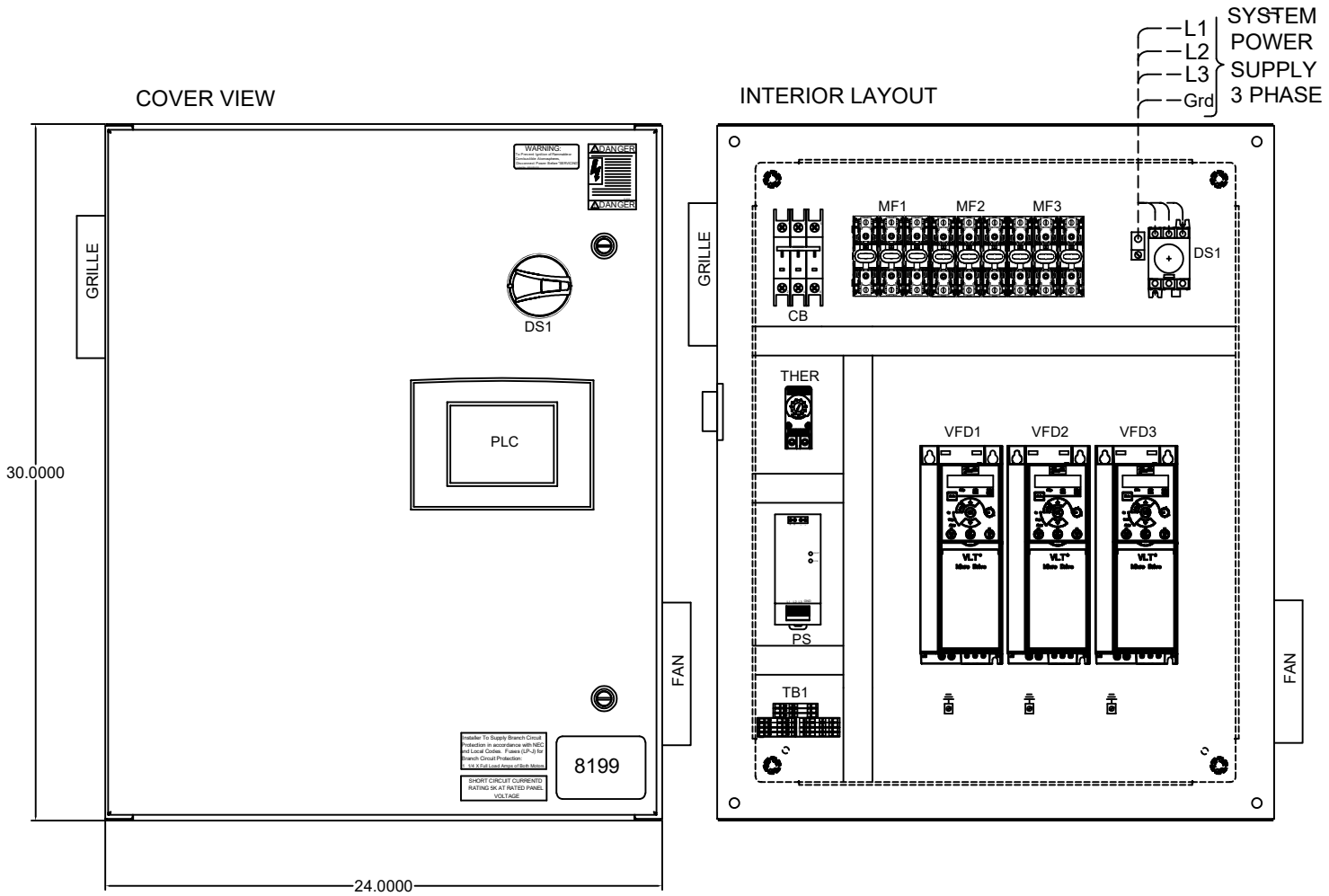


### 8199 Quadraplex Systems:

Voltage:	HP:	Enclosure Size:
208-230	1.0	24H X 42W X 12D
208-230	2.0	24H X 42W X 12D
208-230	3.0	24H X 42W X 12D
208-230	5.0	24H X 42W X 12D
208-230	7.5	24H X 42W X 12D
208-230	10.0	24H X 42W X 12D
208-230	15.0	30H x 48W X 12D
208-230	20.0	42H X 60W X 12D
460	1.0	24H X 42W X 12D
460	2.0	24H X 42W X 12D
460	3.0	24H X 42W X 12D
460	5.0	24H X 42W X 12D
460	7.5	24H X 42W X 12D
460	10.0	24H X 42W X 12D
460	15.0	24H X 42W X 12D
460	20.0	24H X 42W X 12D
575	1.0	24H X 42W X 12D
575	2.0	24H X 42W X 12D
575	3.0	24H X 42W X 12D
575	5.0	24H X 42W X 12D
575	7.5	24H X 42W X 12D
575	10.0	24H X 42W X 12D
575	15.0	30H x 48W X 12D
575	20.0	42H X 48W X 12D

## 8199 TRIPLEX LAYOUT

Typical Enclosure Size: 30 X 24 X 10



### 8199 Triplex Systems:

Voltage:	HP:	Enclosure Size:
208-230	1.0	30H X 24W X 10D
208-230	2.0	30H X 24W X 10D
208-230	3.0	30H X 24W X 10D
208-230	5.0	30H X 24W X 10D
208-230	7.5	30H X 30W X 10D
208-230	10.0	30H X 30W X 10D
208-230	15.0	36H X 36W X 12D
208-230	20.0	42H X 48W X 12D
460	1.0	30H X 24W X 10D
460	2.0	30H X 24W X 10D
460	3.0	30H X 24W X 10D
460	5.0	30H X 24W X 10D
460	7.5	30H X 24W X 10D
460	10.0	30H X 24W X 10D
460	15.0	24H X 42W X 12D
460	20.0	24H X 42W X 12D
575	1.0	30H X 30W X 10D
575	2.0	30H X 30W X 10D
575	3.0	30H X 30W X 10D
575	5.0	30H X 30W X 10D
575	7.5	30H X 30W X 10D
575	10.0	30H X 30W X 10D
575	15.0	36H X 42W X 12D
575	20.0	36H X 42W X 12D



Fact Sheet

# VLT® Micro Drive FC 51

## Small drive with maximum strength



The VLT® Micro Drive is a general-purpose drive that can control AC motors up to 22 kW. It's a small drive with maximum strength and reliability.

VLT® Micro Drive is a full member of the VLT® family sharing the overall quality of design, reliability and user- friendliness. Due to high quality components the VLT® Micro Drive is extremely reliable.

### RoHS compliant

The VLT® Micro Drive is manufactured with respect for the environment, and it complies with the RoHS Directive.

### Power range:

1 phase 200–240 V AC:	0.18–2.2 kW
3 phase 200–240 V AC:	0.25–3.7 kW
3 phase 380–480 V AC:	0.37–22 kW

Feature	Benefit
Minimum commissioning	Saves time
Copy settings via local control panel	Easy programming of multiple drives
Intuitive parameter structure	Minimal manual reading
Self-protecting features	Lean operation
Process PI-controller	No need for external controller
Automatic Motor Tuning	Ensures optimal match between drive and motor
150% motor torque up to 1 minute	Plenty of brake-away and acceleration torque
Flying start (catch a spinning motor)	Doesn't trip when started on a spinning (free-wheeling) motor
Electronic Thermal Relay (ETR)	Replaces external motor protection
Smart Logic Controller	Often makes PLC unnecessary
Built-in RFI filter	Saves cost and space
Energy efficiency 98 %	Minimizes heat loss
Automatic Energy Optimization (AEO)	Saves 5–15% energy in HVAC applications
Earth fault and short circuit protection	Protects the drive
Unique cooling concept with no forced air flow over electronics	Problem-free operation in harsh environments
High quality capacitors	Tolerates uneven mains supply
All drives full load tested from factory	High reliability
Dust resistant	Increased lifetime
RoHS compliant	Protects the environment

# Perfect

match for:

- Industrial appliances
- HVAC applications
- OEM

## Coated PCB standard

For harsh environments.

## Power options

Danfoss VLT Drives offers a range of external power options for use together with our drives in critical networks or applications:

- VLT® Advanced Harmonic Filter:  
For applications where reducing harmonic distortion is critical.

## PC software tools

- MCT 10  
Ideal for commissioning and servicing the drive including guided programming of cascade controller, real-time clock, smart logic controller and preventive maintenance.
- VLT® Energy Box  
Comprehensive energy analysis tool, shows the drive payback time.
- MCT 31  
Harmonics calculations tool.



## Cabinet sizes

(mounting flange incl.)

[mm]	M1	M2	M3	M4	M5
Height	150	176	239	292	335
Width	70	75	90	125	165
Depth	148	168	194	241	248

+ 6 mm with potentiometer

# VLT | VAGON

Tel. +1 (888) DANFOSS | www.danfossdrives.com | E-mail: salesinformation@danfoss.com

Danfoss Drives: Houston, TX • Loves Park, IL • Milwaukee, WI • Raleigh, NC • Stoney Creek, ON

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## Specifications

Mains supply (L1, L2, L3)	
Supply voltage	1 x 200–240 V ± 10%, 3 x 200–240 V ± 10% 3 x 380–480 V ± 10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ) near unity	(> 0.98)
Switching on input supply L1, L2, L3	1–2 times/min.
Output data (U, V, W)	
Output voltage	0–100% of supply voltage
Output frequency	0–200 Hz (VVC+ mode), 0–400 Hz (U/f mode)
Switching on output	Unlimited
Ramp times	0.05–3600 sec
Digital inputs	
Programmable digital inputs	5
Logic	PNP or NPN
Voltage level	0–24 VDC
Pulse inputs	
Programmable pulse inputs	1*
Voltage level	0–24 V DC (PNP positive logic)
Pulse input frequency	20–5000 Hz
* One of the digital inputs can be used for pulse inputs.	
Analogue input	
Analog inputs	2
Modes	1 current/1 voltage or current
Voltage level	0–10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Analogue output	
Programmable analog outputs	1
Current range at analog output	0/4–20 mA
Relay outputs	
Programmable relay outputs	1 (240 VAC, 2 A)
Approvals	
CE, C-tick, UL	
Fieldbus communication	
FC Protocol, Modbus RTU	

## Ordering numbers

Power [kW]	Current [I nom.]	200 V		400 V	
		1 ph.	3 ph.	Current [I nom.]	3 ph.
0.18	1.2	132F 0001			
0.25	1.5		132F 0008		
0.37	2.2	132F 0002	132F 0009	1.2	132F 0017
0.75	4.2	132F 0003	132F 0010	2.2	132F 0018
1.5	6.8	132F 0005	132F 0012	3.7	132F 0020
2.2	9.6	132F 0007	132F 0014	5.3	132F 0022
3.0				7.2	132F 0024
3.7	15.2		132F 0016		
4.0				9.0	132F 0026
5.5				12.0	132F 0028
7.5				15.5	132F 0030
11.0				23.0	132F 0058
15.0				31.0	132F 0059
18.5				37.0	132F 0060
22.0				43.0	132F 0061

Micro Drives from 1.5 kW and up have built-in brake chopper

VLT® Control panel LCP 11 ..... Without potentiometer: 132B0100  
VLT® Control panel LCP 12 ..... With potentiometer: 132B0101

# VISION 700™

## Features:

### HMI

- Size: 7"
- High quality color touchscreen
- Multi-language display
- Built-in Alarm Screens

### PLC

- I/O options include digital, analog, high speed, temperature, and weight measurement
- Expand up to 1000 I/Os
- Auto-tune PID, up to 24 independent loops
- Recipe programs and data logging via data tables
- MicroSD card - log, backup, clone & more
- Function Blocks

### Communication

#### Built-in ports:

- 1 Ethernet TCP/IP
- 1 Mini USB for programming
- 1 RS485/RS232

#### Add-on ports:

- 1 Serial/Profibus
- 1 CANbus

#### Protocols:

- MODBUS TCP
- SNMP V1
- CANopen, CANlayer2, UniCAN
- BACnet, KNX and M-Bus via gateway
- FB Protocol: for any 3rd party protocol

#### General Features:

- Web server
- E-mail & SMS
- 3G Modem support
- Remote access utilities

Advanced PLC with a built-in 7" high-resolution color touch screen. Snap in I/Os to expand up to 1000 I/Os.



V700



“Reliability, ease of use, connectivity and competitive prices are Unitronics' main strengths.”

Mr. Andrea Della Bosca,  
EV srl

## Vision 700

Article Number	V700-T208J
<b>I/O Options</b>	
Total supported I/Os	1000
I/O Expansion	Snap-in I/O Modules plug directly into the back of the Vision unit (See Snap-in I/O Modules- page 37). Local or Remote I/Os may be added via expansion port or via CANbus (See I/O Expansion Modules- page 36).
Local I/O Expansion	Use Local Expansion Adapters to add up to 8 modules
Remote I/O Expansion	Use EX-RC1 adapters to further extend the number of I/Os <sup>1</sup>
<b>Program</b>	
Application Memory	Application Logic: 2MB • Images: 40MB • Fonts: 1MB
Scan Time	9µsec per 1K of typical application
Memory Operands	8192 coils, 4096 registers, 512 long integers (32-bit), 256 double words (32-bit unsigned), 64 floats, 384 timers (32-bit), 32 counters. Additional non-retainable operands: 1024 X-bits, 512 X-integers, 256 X-long integers, 64 X-double words
<b>HMI Panel</b>	
Color Touchscreen	Resistive, Analog
Cut Out Height x Width (mm)	125 x 193
Resolution	800 x 400 (SVGA)
Keys	Virtual Keyboard
<b>Environment</b>	
Protection	IP66, IP65 and NEMA4X
Operating Temperature	0 to 50°C
Standards	UL, CE, EAC, UL Hazardous Locations, Class I, Division 2 <sup>2</sup>
<b>General</b>	
Battery	7 years typical at 25°C, battery back-up for all memory sections and RTC
Clock	Real-time clock functions (date and time)
Power Supply	12/24VDC <sup>3</sup>

<sup>1</sup> EX-RC1: via CANbus, integrate standard Unitronics' I/O modules at distances of up to 1000m.

<sup>2</sup> For a list of relevant models, contact Unitronics.

<sup>3</sup> 12V applies to PLC power supply only, and not to the I/O.

### Ordering Information

V700-T20BJ                      PLC with Flat panel, Color touch display 7"

You can find additional information, such as wiring diagrams, in the product's installation guide located in the Technical Library at [www.unitronics.com](http://www.unitronics.com).

### Power Supply

Input voltage	12 or 24VDC
Permissible range	10.2-28.8VDC
Max. current consumption	630mA@12V 320mA@24V

### Graphic Display Screen

See Note 1	
LCD Type	TFT, LCD display
Illumination backlight	White LED
Display resolution	800x480 pixels
Viewing area	7"
Colors	65,536 (16-bit)
Touchscreen	Resistive, analog
'Touch' indication	Via buzzer
Screen brightness control	Via software (Store value to SI 9, values range: 0 to 100%)
Virtual Keypad	Displays virtual keyboard when the application requires data entry.

### Notes:

1. Note that the LCD screen may have a single pixel that is permanently either black or white.

### Program

Memory size                      Application Logic – 2MB, Images – 60MB, Fonts – 1MB

Operand type	Quantity	Symbol	Value
Memory Bits	8192	MB	Bit (coil)
Memory Integers	4096	MI	16-bit
Long Integers	512	ML	32-bit
Double Word	256	DW	32-bit unsigned
Memory Floats	64	MF	32-bit
Fast Bits	1024	XB	Bits (coil) – fast, not retained
Fast Integers	512	XI	16 bit - fast, not retained
Fast Long Integers	256	XL	32 bit - fast, not retained
Fast Double Word	64	XDW	32 bit unsigned - fast, not retained
Timers	384	T	Res. 10 ms; max 99h, 59 min, 59.99s
Counters	32	C	16-bit

Data Tables                      120K dynamic RAM data (recipe parameters, datalogs, etc.)  
Up to 256K Flash data (read-only data, ingredient names, etc)  
Expandable via micro-SD card. See Removable Memory below

HMI displays                      Up to 1024

Program scan time                9 µsec per 1K of typical application

**Removable Memory**

Micro-SD card    Compatible with fast micro-SD cards; store datalogs, Alarms, Trends, Data Tables, backup Ladder, HMI, and OS. See Note 2

**Notes:**

2. User must format via Unitronics SD tools utility.

**Communication**

Port 1	1 channel, RS232/RS485 and USB device. See Note 3
Galvanic isolation	Yes
Baud rate range	300 to 115200 bps
RS232	
Voltage limits	±20VDC absolute maximum
Cable length	Up to 15m (50')
RS485	
Voltage limits	-7 to +12VDC differential maximum
Nodes	Up to 32
Cable type	Shielded twisted pair, in compliance with EIA RS485
Cable length	1200m maximum (4000')
USB	See Note 4
Port type	Mini-B
Galvanic isolation	No
Specification	USB 2.0 compliant; full speed
Cable	USB 2.0 compliant; up to 3m
Ethernet	
Port type	RJ45
Transmission speed	10/100Mbps
Network topology	Star, based on external hub/switch
Cable type	Category 5 STP (shielded twisted pair) is recommended; UTP (unshielded twisted pair) may also be used
Drop line length	Up to 100 meters, controller to hub/switch or controller to controller.
Port 2 (optional)	See Note 5
CANbus (optional)	See Note 5

**Notes:**

3. This model is supplied with a serial port: RS232/RS485 (Port 1). The standard is set to either RS232 or RS485 according to DIP switch settings. Refer to the product's Installation Guide.
4. Note that physically connecting a PC to the controller via USB suspends RS232/RS485 communications via Port 1. When the PC is disconnected, RS232/RS485 resumes.
5. The user may order and install one or both of the following modules:
  - A serial RS232/RS485 isolated/non-isolated interface module in port 2.
  - A CANbus module
 Modules documentation is available on the Unitronics website.

**I/Os**

	Additional I/Os may be added. Configurations vary according to module. Supports digital, high-speed, analog, weight and temperature measurement I/Os.
Snap-in I/O modules	Plugs into rear port to create self-contained PLC with up to 62 I/Os.
I/O Expansion	
Local	Via I/O Expansion Port. Integrate up to 8 I/O Expansion Modules comprising up to 128 additional I/Os. Adapter required (P.N. EX-A2X).
Remote	Via CANbus port. Connect up to 60 adapters to a distance of 1000 meters from controller; and up to 8 I/O expansion modules to each adapter (up to a total of 512 I/Os). Adapter required (P.N. EX-RC1).
Galvanic isolation	Yes

**Miscellaneous**

Clock (RTC)	Real-time clock functions (date and time)
Battery back-up	7 years typical at 25 °C, battery back-up for RTC and system data, including variable data
Battery replacement	Yes (without opening the controller). Coin-type 3V, lithium battery, CR2450

**Dimensions**

Size	210 x 146.4 x 42.3mm (8.26 x 5.76 x 1.66"). See Note 6
Weight	640g (22.57 oz)

**Notes:**

- For exact dimensions, refer to the product's Installation Guide.

**Environment**

Operational temperature	0 to 50°C (32 to 122°F)
Storage temperature	-20 to 60°C (-4 to 140°F)
Relative Humidity (RH)	10% to 95% (non-condensing)
Mounting method	Panel mounted (IP65/66/NEMA4X)
Operating Altitude	2000m (6562 ft)
Shock	IEC 60068-2-27, 15G, 11ms duration
Vibration	IEC 60068-2-6, 5Hz to 8.4Hz, 3.5mm constant amplitude, 8.4Hz to 150Hz, 1G acceleration.

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## The TDH43 Series Low Cost OEM Pressure Transducer with all Stainless Steel Wetted Parts



### SERIES: TDH43

#### APPLICATIONS

- Hydraulic / Mobile Hydraulic
- Pneumatic Systems
- Food and Beverage Industry
- Refrigeration Systems
- Pumps and Compressors
- Energy and water management
- Construction and Agricultural Equipment

#### DESCRIPTION

The TDH43 Series Pressure Transducer utilizes piezoresistance technology in an all stainless steel body. It is compact in size, has long term stability, ease of installation and is very economical as well as reliable.

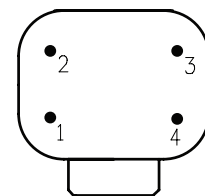
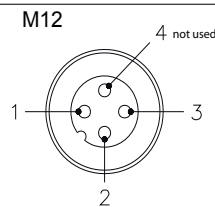
The TDH43 sets a new price-performance standard for low cost, high volume commercial and industrial applications.

#### FEATURES

- Vac to 285 psi or 3 to 10,000 psi Range
- Various Outputs
- Compact Design
- 316 Stainless steel Housing
- All stainless steel wetted parts
- High 125 ° C (257 ° F) operating temperature
- Low Cost
- Better 0.4% Accuracy
- Custom Outputs and Ranges Available
- OEM Tested and Approved
- Low power consumption

#### ELECTRICAL CONNECTIONS

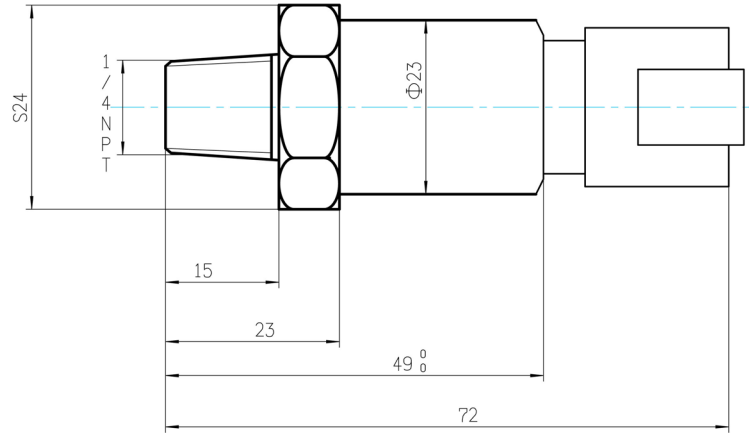
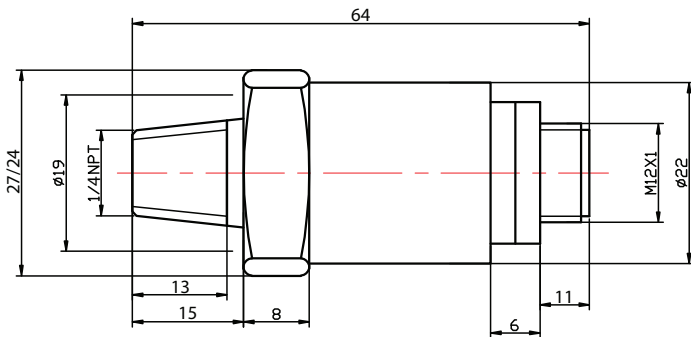
Signal	Function	Color	Pin
0-5V	Supply V +	Brown	1
	Output +	White	2
	Com	Blue	3
4-20mA	Supply V +	Brown	1
	Output	Blue	3



Transducer View  
Deutsch DT04-4P

X 4	Pin1	Pin2	Pin3	Pin4
mA	Output+	Supply+	N/C	N/C
V	COM	Supply V+	N/C	output +

**DIMENSIONS**



Dimensions are in millimeters and for reference only

**SPECIFICATIONS**

**Performance @ 25°C (77 °F)**

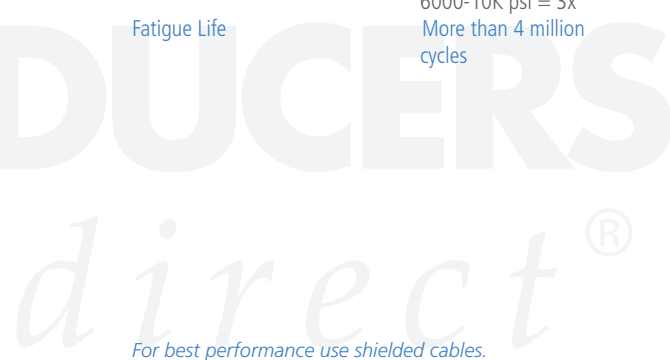
Accuracy	0.4% FS, BFSL (includes non-linearity, hysteresis and non-repeatability)
Stability	0.2% FS
Thermal Error	1% FS
Compensated Temperatures	-10 to 100 ° C (14 to 212 ° F)
Operating Temperatures	-20 to 125 ° C (-4 to 257 ° F)
Current Consumption	Approx 4mA for 0-5 & 0.5-4.5 voltage output, 11mA for 0-10 voltage output, 23mA for current output (4-20mA)
Zero and Span Offset Tolerance	1.5%
Shock	50g, 11ms, 1/2 sign
Vibration	11g peak from 10 to 400 Hz
Reverse Polarity Protection	Yes

**Mechanical Configuration**

Pressure Port	1/4 NPT (standard) *
Electrical Connection	M12, 4 pin Deutsch (DT04-4P) *
Ingress Rating	IP67
Housing	316 stainless steel
Diaphragm Material	316 SS <1500 psi, 17-4 SS >1500 psi, wetted parts are SS, no internal Orings
Approvals	CE

**Input**

Supply Voltage / (Output)	8-28 VDC (0-5V, 4-20mA) 5 VDC (0.5-4.5V) 12-36 VDC (0-10V)
Pressure Range	Vac to 285 psi or 3 to 10,000 psi
Proof Pressure	3-6000 psi = 3 x 6000-10K psi = 2 x
Burst Pressure	3-6000 psi = 4x 6000-10K psi = 3x
Fatigue Life	More than 4 million cycles



For best performance use shielded cables.

Mating connectors and cable assemblies sold separately.

\* Consult factory for further OEM options.

**ORDERING**

Series	Output	Pressure Type	Pressure Range	Pressure Port	Electrical Connection	Accuracy
TDH43	B	G	0050	03	Q00	5
	B = 4-20mA C = 0-5V (3 wire) **	G = Gauge **	(psi) V000 0015 V015 0025 V045 0050 V085 0100 V135 0250 V185 0500 V285 1000 3000 5000 **	03= 1/4" NPT Male **	Q00= M12 X400= 4 pin Deutsch **	5= 0.4%

\*\*= Consult factory for further OEM options

Pressure ranges and outputs listed above are quick ship versions

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. While we provide application assistance personally, through our literature and the Transducers Direct web site, it is up to the customer to determine the suitability of the product in the application.

REV: 7.19



SERIES SGY & SGZ

# 2.5" INDUSTRIAL PRESSURE GAGES

1.5% FS Accuracy, 316 SS or Brass Wetted Parts, Dual Psi/Bar x100 kPa Scales



SGZ bottom



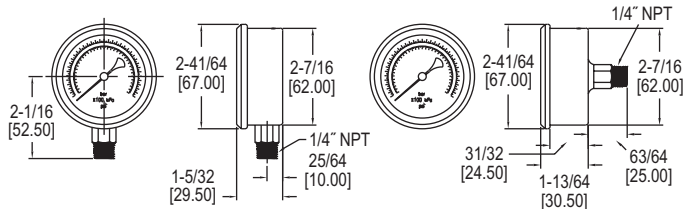
SGZ back with accessory pointers



SGY bottom



SGY back with accessory pointers



The **Series SGY & SGZ 2" Industrial Pressure Gages** have dual psi and bar (x100 kPa) scales with  $\pm 1.5\%$  full-scale accuracy. The Series SGZ and SGY gages are designed with 304 SS housings and the SGZ is designed with 316 SS wetted parts for excellent chemical compatibility or SGY brass wetted parts for compatible gases. These gages cover a wide variety of ranges in either bottom or back connection configurations. Series SGZ gages employ an easy-open breather plug on top, which allows liquid filled units to breathe, relieving any built up internal pressures. Plug easily pops open and does not need to be entirely removed or cut like a typical gages' rubber plug grommet.

## FEATURES/BENEFITS

- Stainless steel housing and wetted parts to resist ambient corrosion for longer service life in harsh environments
- Higher accuracy gage for value-sensitive applications requiring more precise measurement and where vibration is a concern
- Optional sliding pointer clearly mark to make visible critical ranges and high and low points
- Liquid fillable gage with easy open breather plug provides smoother damped movement of pointer
- Back or bottom mounting and compact size provides for mounting with dimensional limitations

## APPLICATIONS

- Vacuums in pneumatic conveying lines
- Positive pressure in compressed air headers
- Corrosive ambient environments

## ACCESSORIES

Model	Description
A-445D	U-bracket mounting kit for 2.5" gage
A-499R	Red sliding color pointer
A-499Y	Yellow sliding color pointer
A-499G	Green sliding color pointer

## OPTIONS

Use order code:	Description
NISTCAL-PG1	NIST traceable calibration certificate

## SPECIFICATIONS

**Service:** Compatible gases and liquids.  
**Wetted Materials:** SGZ: 316 L SS Tube, 316 SS connector; SGY: Brass connection, bronze tube.  
**Housing:** 304 SS.  
**Lens:** Polycarbonate.  
**Accuracy:**  $\pm 1.5\%$  FS.  
**Pressure Limit:** FS range.

**Temperature Limits:** -4 to 140°F (-20 to 60°C).  
**Size:** 2.5" (63 mm).  
**Process Connections:** 1/4" male NPT.  
**Weight:** 4.9 oz (141 g) bottom, 5.8 oz (164 g) back. Add 3.7 oz (104 g) for glycerin fill.

## MODEL CHART

Model	Range	Model	Range
SGZ-D10122N	30" Hg to 0	SGY-D10122N	30" Hg to 0
SGZ-D10322N	0 to 30 psi	SGY-D10322N	0 to 30 psi
SGZ-D10422N	0 to 60 psi	SGY-D10422N	0 to 60 psi
SGZ-D10522N	0 to 100 psi	SGY-D10522N	0 to 100 psi
SGZ-D10622N	0 to 160 psi	SGY-D10622N	0 to 160 psi
SGZ-D10722N	0 to 200 psi	SGY-D10722N	0 to 200 psi
SGZ-D11022N	0 to 300 psi	SGY-D11022N	0 to 300 psi
SGZ-D11122N	0 to 500 psi	SGY-D11122N	0 to 500 psi
SGZ-D11222N	0 to 1000 psi	SGY-D11222N	0 to 1000 psi

**Note:** To order with glycerin fill, add -GF to the end of the model. For back connect, change 22N to 42N.

USA: California Proposition 65

⚠WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov



## SERIES SGY & SGZ | 2.5" INDUSTRIAL PRESSURE GAGES



SGZ bottom



SGY bottom



SGZ back with  
accessory pointers



SGY back  
with accessory pointers

### FEATURES/BENEFITS

- Stainless steel housing and wetted parts to resist ambient corrosion for longer service life in harsh environments
- Higher accuracy gage for value-sensitive applications requiring more precise measurement and where vibration is a concern
- Optional sliding pointer clearly mark to make visible critical ranges and high and low points
- Liquid fillable gage with easy open breather plug provides smoother damped movement of pointer
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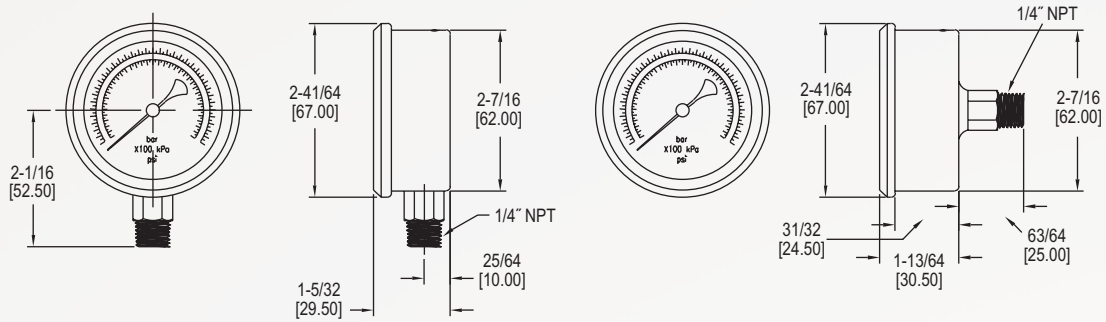
### APPLICATIONS

- Vacuums in pneumatic conveying lines
- Positive pressure in compressed air headers
- Corrosive ambient environments

### DESCRIPTION

The **Series SGY & SGZ 2.5" Industrial Pressure Gages** have dual psi and bar (x100 kPa) scales with  $\pm 1.5\%$  full-scale accuracy. The Series SGZ and SGY gages are designed with 304 SS housings and the SGZ is designed with 316 SS wetted parts for excellent chemical compatibility or SGY brass wetted parts for compatible gases. These gages cover a wide variety of ranges in either bottom or back connection configurations. Series SGZ gages employ an easy-open breather plug on top, which allows liquid filled units to breathe, relieving any built up internal pressures. Plug easily pops open and does not need to be entirely removed or cut like a typical gages' rubber plug grommet.

## DIMENSIONS



## HOW TO ORDER

Use the **bold** characters from the chart below to construct a product code.

	<b>SGY</b>	<b>-D1</b>	<b>01</b>	<b>22N</b>	<b>-GF</b>	<b>-NISTCAL-PG1</b>	
<b>SERIES</b>							<b>OPTIONS</b>
<b>SGY:</b> Brass connector gage <b>SGZ:</b> 316 SS connector gage							<b>-NISTCAL-PG1:</b> NIST traceable calibration certificate
<b>MODEL</b>							<b>GLYCERIN FILL OPTION</b>
<b>-D1</b>							<b>-GF:</b> Glycerin fill <b>Note:</b> Leave blank for standard product. Standard product does not have glycerin fill.
<b>RANGE</b>							<b>CONNECTION</b>
<b>01:</b> 30 in Hg to 0 <b>03:</b> 0 to 30 psi <b>04:</b> 0 to 60 psi <b>05:</b> 0 to 100 psi <b>06:</b> 0 to 160 psi <b>07:</b> 0 to 200 psi <b>10:</b> 0 to 300 psi <b>11:</b> 0 to 500 psi <b>12:</b> 0 to 1000 psi							<b>22N:</b> 1/4" NPT bottom connection <b>42N:</b> 1/4" NPT back connection

## ACCESSORIES

Model	Description
<b>A-445D</b>	U-bracket mounting kit for 2.5" gage
<b>A-499R</b>	Red sliding color pointer
<b>A-499Y</b>	Yellow sliding color pointer
<b>A-499G</b>	Green sliding color pointer.

**ORDER ONLINE TODAY!**

[dwyer-inst.com/Product/SeriesSGY](http://dwyer-inst.com/Product/SeriesSGY)



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DS-SGY-SGZ Rev. 1

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## Limited Warranty Statement for Pressure Boosting Systems

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Manufacturer shall warrant the product being supplied to the owner against defects due to manufacture, assembly or material for a stated period of 3 years from factory ship date, under normal handling, operation and service.

The obligation under this warranty is limited to the replacement or repair on site, or at a point designated by the factory. Warranty application will be determined upon inspection. Warranty coverage will be based upon inspection results and product warranty coverage period.

This warranty does not obligate seller to bear the cost of labor or transportation charges in connection with the replacement or repair of defective parts or equipment. Seller shall not be liable, under any circumstances, for any special, consequential or incidental damages including, but not limited to personal injuries or labor costs.

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Warranty consideration must be pre-authorized from Wilo before returning or replacing any material. Material returned for credit will be subject to factory inspection. Returns must be shipped with transportation charges prepaid. Credit for returned material freight charges will be considered if products are covered by warranty.

### **Product Group Covered**

Vertical Multistage Pump System  
Vertical Multistage Pump System with  
ECM (Electronically Commutated Motor)  
Horizontal End Suction Pump System

