

**SHOP DRAWING AND SUBMITTAL REVIEW**

January 08, 2025

Project Name: **Cabarrus County Behavioral Health**

Project Number: **D22-2545**

Submittal description: **440 232123-000 Hydronic Pumps**

Reviewed By: RD

Engineer's review is only for checking conformance with the design concept and contract documents. Review comments or lack thereof shall not be considered as relieving the contractor from meeting the requirements of the construction documents, including plans and specifications. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication process or to techniques of construction, for and the safety and coordination of the work of all trades.

Reviewed

Revise and Resubmit

Furnish as Corrected

Rejected

**HWP-1 PAGE 4**  
**HWP-2 PAGE 7**

*Roy Dayan* 01/08/2025

Reviewers Signature and Date

**Comments:**

1. Change in RPM on HWP-1 is acceptable.
2. No additional comments.

Built-in cover page

## Unspecified-0:Pumps and Pump Accessories



Status	<b>Open</b> Submitted
Spec section	232123 HYDRONIC PUMPS
Manager	<b>Jennifer Skuya</b> (Messer Construction Co.)
Responsible contractor	<b>Del Barnhill</b> (LB Mechanical Services, LLC)
Reviewers step 01	<b>Roger Shows</b> (CMTA Inc - Consulting Engineers)

**Reviewed**

Reviewed by: Jennifer Skuya      Date: 12/26/2024

**Messer Construction Co.**



1133 Upper Asbury Ave  
 Charlotte NC 28206  
 704-392-5228

To: LB Mechanical  
 2320 W Morehead St  
 Charlotte NC 28208  
 9802309181

Submittal

Reference No. 24-02778  
 Submittal Date: 10/30/2024  
 Submittal Based on Drawings Dated: 07/12/2024  
 Job Engineer: CMTA (TX)

Job Name: Cabarrus County Behavioral Health

Items are on engineering hold until approved submittals are received.

Hot Water Pumps and Accessories

QTY	TAG	DESCRIPTION
1	HWP-1	TACO # KV3007D Vertical Inline Pump (3" x 3") 193 GPM @ 50 FT HD, Impeller trim: 7.2" 5 HP Premium ODP Motor w/Aegis SGR, 1750 RPM, 460V/3
TACO is on acceptable manufacturer list -JS		
1	HWP-2	TACO # KV3009D Vertical Inline Pump (3" x 3") 211 GPM @ 50 FT HD, Impeller trim: 7.45" 5 HP Premium ODP Motor w/Aegis SGR, 1750 RPM, 460V/3
2	HWP-1,2	TACO SD040030-5 Suction Diffuser, Size: 4" x 3" FLGD
2	HWP-1,2	TACO # MPV040-4 Multipurpose Valve, Size: 4" FLGD 125 #
4	HWP-1,2	METRAFLEX MMCC0400 Metra-Mini Stainless Steel Hose & Braid Flexible Connector, Size: 4" Dia x 9" L



Submitted By: Andrew Bansek

Salesman: Corey Anderson

Charlotte  
 1133 Upper Asbury Ave  
 Charlotte North Carolina 28206

Charlotte  
 1133 Upper Asbury Ave  
 Charlotte North Carolina 28206



# KV Series Pump | Submittal Data

Vertical Close Coupled Pumps

Submittal No: 301-1099D | Model: 3007D | RPM: 1760 - 60 Hz | Effective: October 7, 2019 | Supersedes: New

JOB: Cabarrus County BH

REPRESENTATIVE: HHY

ENGINEER: CMTA

CONTRACTOR: LB Mechanical

## PRODUCT DATA

ITEM NO. <u>HWP-1</u>	MODEL NO. <u>3007D</u>
IMPELLER DIAMETER <u>7.20</u>	HORSEPOWER <u>5</u> <
GPM <u>193</u> <	VOLTAGE <u>460V/3P</u> <
HEAD/FT <u>50</u> <	RPM <u>1760</u> <

Configuration	DOE Basic Model Number	PEI Value		Energy Rating
Bare Pump	KV3007D-4P-BP	PEI <sub>d</sub>	0.88	12
<b>Pump + Motor</b>	<b>KV3007D-4P-PM</b>	<b>PEI<sub>d</sub></b>	<b>0.88</b>	<b>12</b>

Schedule BOD states 1765. Is this acceptable? ~~JS~~  
Acceptable

WEIGHT \_\_\_\_\_ PUMP/MOTOR \_\_\_\_\_

NSF 61 CERTIFIED  YES  NO SUPPORT STAND OPTION  YES  NO  
(Ductile Iron ASTM A536-84 Grade 65-45-12)

## DIMENSIONS

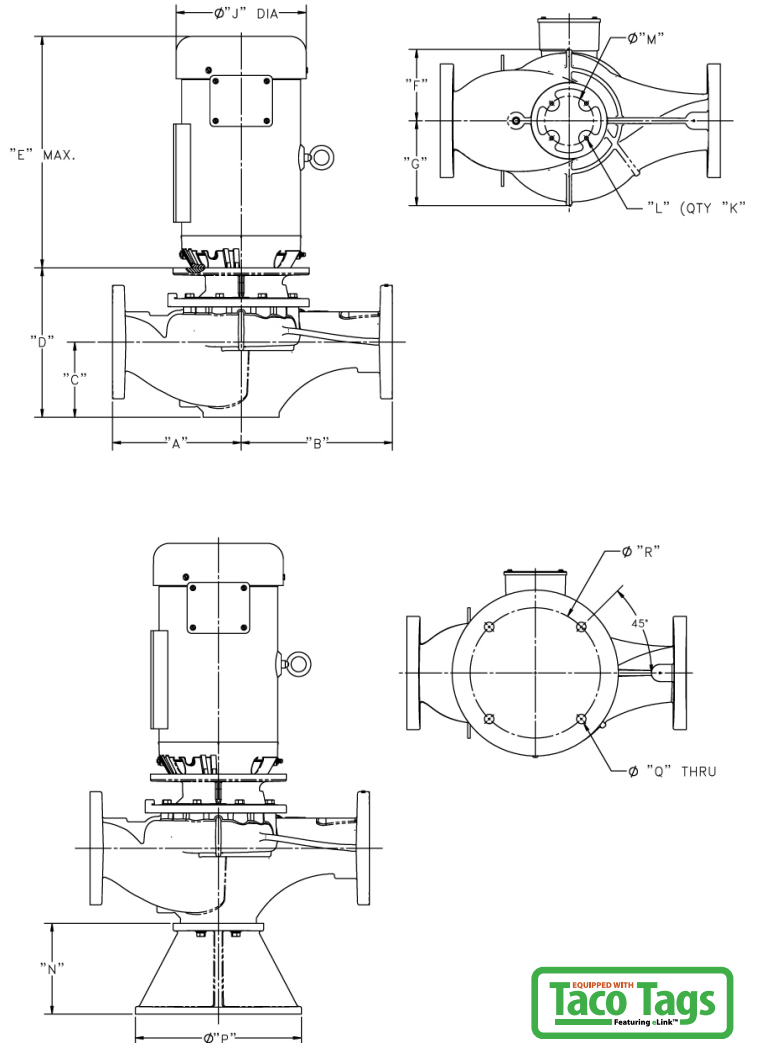
Model No. | 3007D  
Flange Size (Suction x Discharge) | 3 x 3 (76 x 76)

HORSEPOWER	2	3	5
MOTOR FRAME TEFC	145JM	182JM	184JM
MOTOR FRAME ODP	145JM	182JM	184JM
WEIGHT WITHOUT OPTIONAL STAND LBS (KG)	197.0 (89)	216.8 (98)	248.7 (113)
WEIGHT WITH OPTIONAL STAND LBS (KG)	217.9 (99)	237.7 (108)	269.6 (122)
FLANGE SIZE ASA	3 (76)		
A*	ANSI CLASS 125: 10 (254)		
	ANSI CLASS 250: 10.37 (263)		
B*	ANSI CLASS 125: 10 (254)		
	ANSI CLASS 250: 10.37 (263)		
C	6.3 (160)		
D	11.29 (287)		
E MAX	11.15 (283)	13.76 (350)	15.26 (388)
F	5.42 (138)		
G	6.55 (166)		
J DIA	6.62 (168)	7.88 (200)	
K	4		
L	3/8-16 UNC-2B		
M	2.88 (73)		
N	6 (152)		
P	9.38 (238)		
Q	0.63 (16)		
R	7.75 (197)		

## OPERATING SPECIFICATIONS

FLANGE	PRESSURE	TEMPERATURE
ANSI Class 125	175 PSIG* (1210 KPA)	250°F (120°C)
ANSI Class 250	300 PSIG** (2070 KPA)	250°F (120°C)

Motors: All NEMA Standard (JM Frame)  
\* In accordance with ANSI Standard B16.1 Class 125  
\*\* In accordance with ANSI Standard B16.1 Class 250



\*A & B Dimensions apply for all pump sizes.

English dimensions are in inches. Metric dimensions are in millimeters. Metric data is presented in ( ). Do not use for construction purposes unless certified.



MATERIALS OF CONSTRUCTION		CASING	COVER	IMPELLER	WEAR RING	SHAFT	SHAFT SLEEVE	MECHANICAL SEAL	SEAL FLUSH LINE ASSEMBLY	SUPPORT STAND
STANDARD CONSTRUCTION	BRONZE FITTED	125# FLANGE Cast Iron ASTM A48/A48M-03 Class 30A	Cast Iron ASTM A48/A48M-03 Class 30A	Bronze ASTM B584 ALLOY C83600 or C84400	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
	OPTIONAL	250# FLANGE Ductile Iron ASTM A536-84 Grade: 65-45-12	Cast Iron ASTM A48/A48M-03 Class 30A	Bronze ASTM B584 ALLOY C83600 or C84400	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
OPTIONAL	125# OR 250#	N/A	N/A	Stainless Steel ASTM A351/A 351M-08	Bronze ASTM B584-98A C92200	N/A	Stainless Steel TYPE 303 ASTM A276	Tungsten Carbide/EPT or Silicon Carbide/EPT	N/A	Ductile Iron ASTM A536-84 Grade 65-45-12
STANDARD CONSTRUCTION	NSF 61	125# FLANGE Cast Iron ASTM A48/A48M-03 Class 30A	Cast Iron ASTM A48/A48M-03 Class 30A	Stainless Steel ASTM A351/A 351M-08	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
	OPTIONAL	250# FLANGE Ductile Iron ASTM A536-84 Grade: 65-45-12	Cast Iron ASTM A48/A48M-03 Class 30A	Stainless Steel ASTM A351/A 351M-08	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
OPTIONAL	125# OR 250#	N/A	N/A	N/A	Bronze ASTM B584-98A C92200	N/A	N/A	N/A	N/A	Ductile Iron ASTM A536-84 Grade 65-45-12

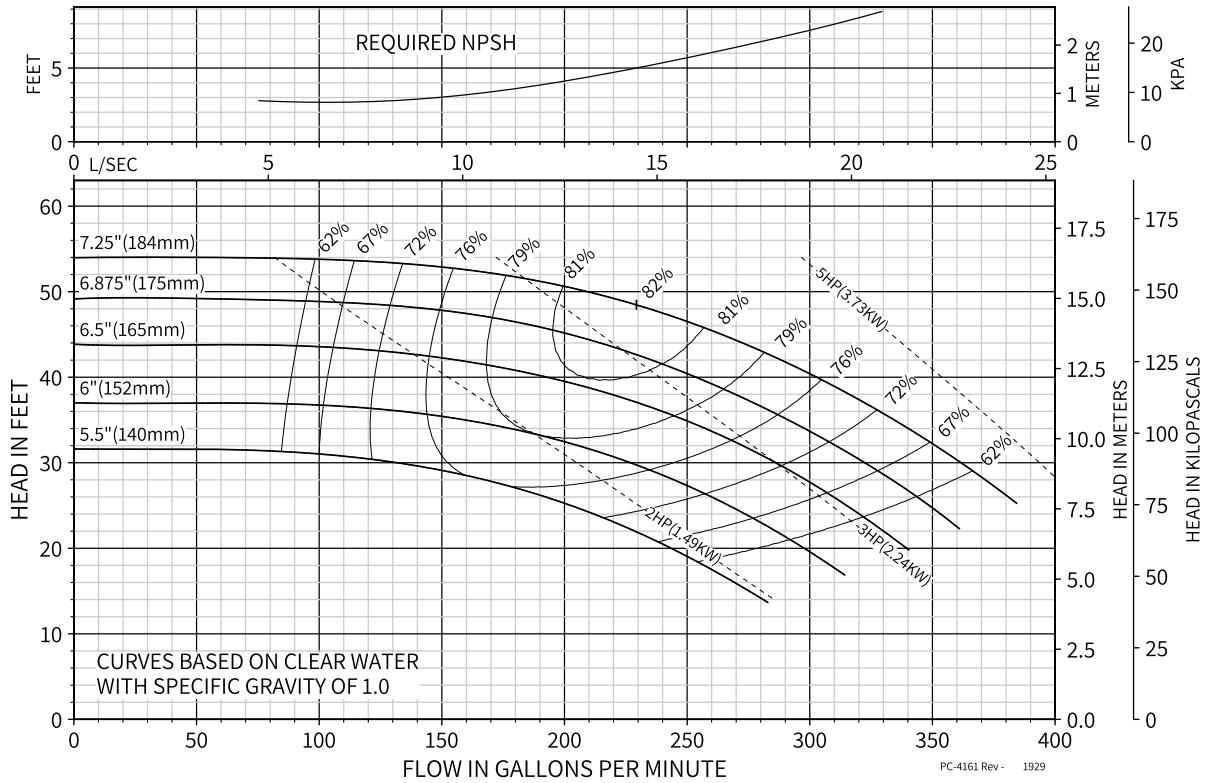
N/A - Not Available



## KV Series | Model: 3007D | 1760 RPM

Curve No. 4161 | Min. Imp. Dia. 5.5" | Size 3x3x7.25 | March 02, 2020

Energy Efficiency Rating: DOE Basic Model Number: KV3007D-4P-PM  
Pump & Motor: PE<sub>CL</sub>: 0.88 | ER<sub>CL</sub>: 12



### COMMENTS



# Model:

## Tag: HWP-1

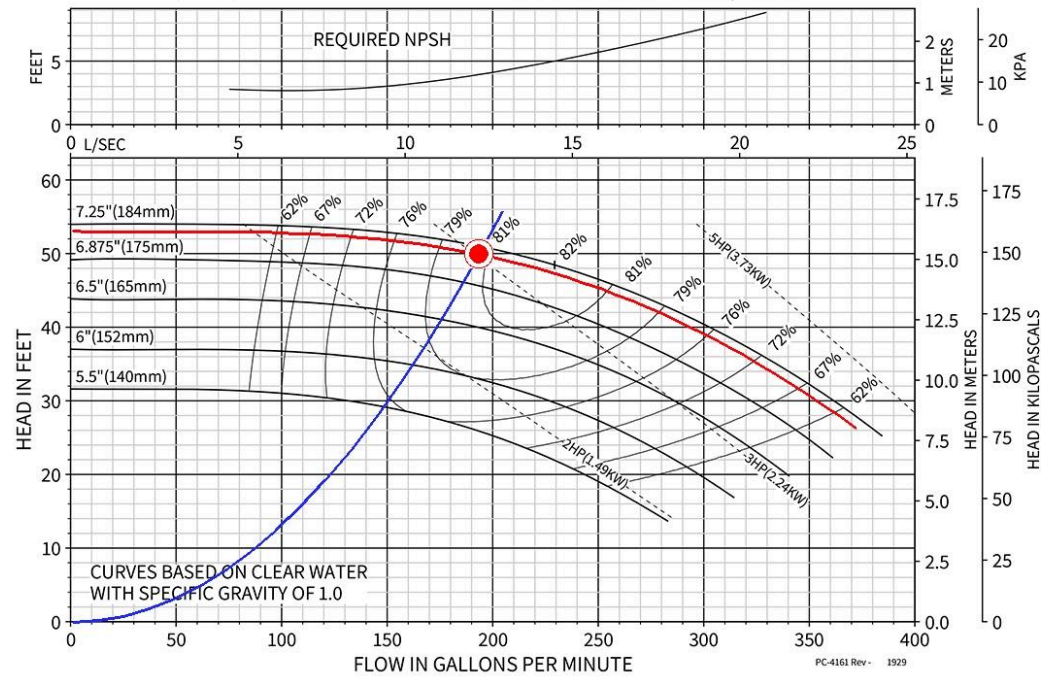
Flow Rate (GPM): 193  
 Head (FT): 50  
 Working Fluid: Water @ 60 F  
 Efficiency (%): 81%  
 Construction: Iron  
 Design Hp: 3.02  
 Nol Hp: 4.27  
 Motor Hp:  
 Npsh (Ft): 4  
 RPM: 1760



### KV Series | Model: 3007D | 1760 RPM

Curve No. 4161 | Min. Imp. Dia. 5.5" | Size 3x3x7.25 | March 02, 2020

Energy Efficiency Rating: DOE Basic Model Number: KV3007D-4P-PM  
 Pump & Motor: PE<sub>CL</sub>: 0.88 | ER<sub>CL</sub>: 12





# KV Series Pump | Submittal Data

Vertical Close Coupled Pumps

Submittal No: 301-1103D | Model: 3009D | RPM: 1760 - 60 Hz | Effective: December 31, 2019 | Supersedes: New

JOB: Cabarrus County BH

REPRESENTATIVE: HHY

ENGINEER: CMTA

CONTRACTOR: LB Mechanical

## PRODUCT DATA

ITEM NO. <u>HWP-2</u>	MODEL NO. <u>3009D</u>
IMPELLER DIAMETER <u>7.45</u>	HORSEPOWER <u>5</u> <
GPM <u>211</u> <	VOLTAGE <u>460V/3P</u> <
HEAD/FT <u>50</u> <	RPM <u>1760</u> <

WEIGHT \_\_\_\_\_ PUMP/MOTOR \_\_\_\_\_

NSF 61 CERTIFIED  YES  NO SUPPORT STAND OPTION  YES  NO  
(Ductile Iron ASTM A536-84 Grade 65-45-12)

## DIMENSIONS

Model No. | 3009D  
 Flange Size (Suction x Discharge) | 3 x 3 (76 x 76)

HORSEPOWER	3	5	7.5	10
MOTOR FRAME TEFC	182JM	184JM	213JM	215JM
MOTOR FRAME ODP	182JM	184JM	213JM	215JM
WEIGHT WITHOUT OPTIONAL STAND LBS (KG)	238.9 (108)	270.8 (123)	331.3 (150)	346.7 (157)
WEIGHT WITH OPTIONAL STAND LBS (KG)	267.0 (121)	298.9 (136)	359.4 (163)	374.8 (170)
FLANGE SIZE ASA	3 (76)			
A*	ANSI CLASS 125: 10.5 (267)			
	ANSI CLASS 250: 10.87 (276)			
B*	ANSI CLASS 125: 10.5 (267)			
	ANSI CLASS 250: 10.87 (276)			
C	6.13 (156)			
D	11.68 (297)			
E MAX	13.76 (350)	15.26 (388)	16.64 (423)	18.11 (460)
F	6.22 (158)			
G	6.90 (175)			
J DIA	7.88 (200)	9.56 (243)		
K	4			
L	5/16-18 UNC-2B			
M	3.25 (83)			
N	6.02 (153)			
P	11 (279)			
Q	0.63 (16)			
R	9.25 (235)			

\*A & B Dimensions apply for all pump sizes.

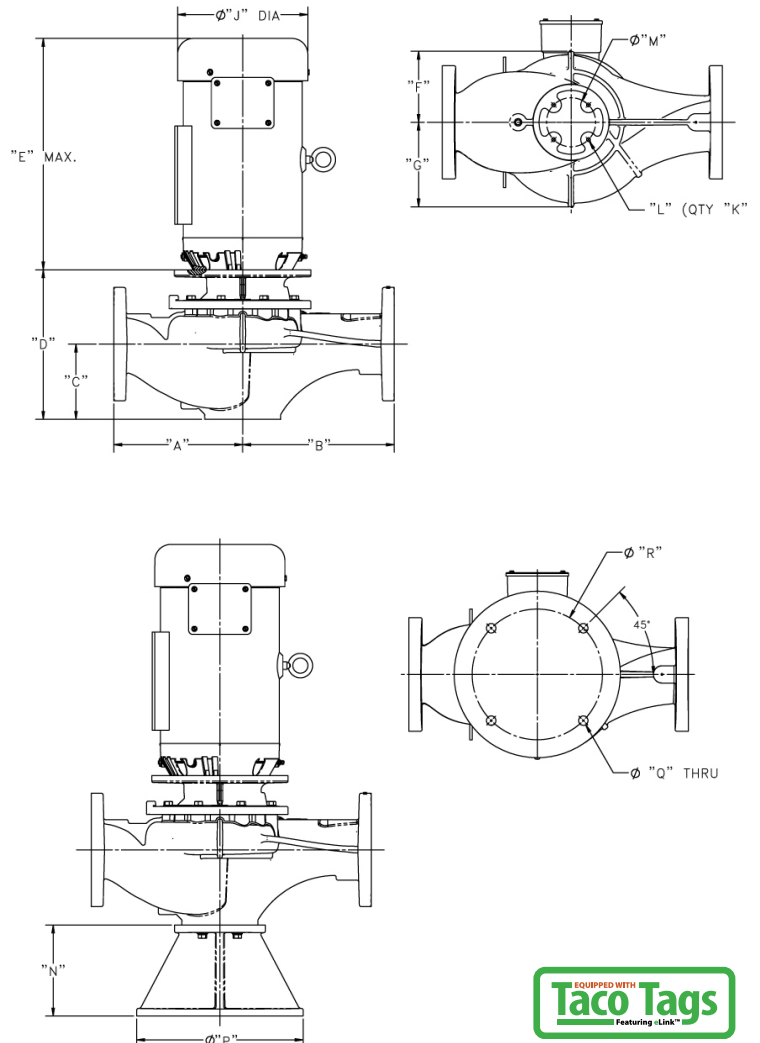
English dimensions are in inches. Metric dimensions are in millimeters.  
 Metric data is presented in ( ). Do not use for construction purposes unless certified.

Configuration	DOE Basic Model Number	PEI Value		Energy Rating
Bare Pump	KV3009D-4P-BP	PEI <sub>d</sub>	0.86	14
<b>Pump + Motor</b>	<b>KV3009D-4P-PM</b>	<b>PEI<sub>d</sub></b>	<b>0.86</b>	<b>14</b>

## OPERATING SPECIFICATIONS

FLANGE	PRESSURE	TEMPERATURE
ANSI Class 125	175 PSIG* (1210 KPA)	250°F (120°C)
ANSI Class 250	300 PSIG** (2070 KPA)	250°F (120°C)

Motors: All NEMA Standard (JM Frame)  
 \* In accordance with ANSI Standard B16.1 Class 125  
 \*\* In accordance with ANSI Standard B16.1 Class 250



MATERIALS OF CONSTRUCTION		CASING	COVER	IMPELLER	WEAR RING	SHAFT	SHAFT SLEEVE	MECHANICAL SEAL	SEAL FLUSH LINE ASSEMBLY	SUPPORT STAND
STANDARD CONSTRUCTION	125# FLANGE	Cast Iron ASTM A48/A48M-03 Class 30A	Cast Iron ASTM A48/A48M-03 Class 30A	Bronze ASTM B584 ALLOY C83600 or C84400	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
	250# FLANGE	Ductile Iron ASTM A536-84 Grade: 65-45-12	Cast Iron ASTM A48/A48M-03 Class 30A	Bronze ASTM B584 ALLOY C83600 or C84400	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
OPTIONAL	125# OR 250#	N/A	N/A	Stainless Steel ASTM A351/A 351M-08	Bronze ASTM B584-98A C92200	N/A	Stainless Steel TYPE 303 ASTM A276	Tungsten Carbide/EPT or Silicon-Carbide/EPT	N/A	Ductile Iron ASTM A536-84 Grade 65-45-12
STANDARD CONSTRUCTION	125# FLANGE	Cast Iron ASTM A48/A48M-03 Class 30A	Cast Iron ASTM A48/A48M-03 Class 30A	Stainless Steel ASTM A351/A 351M-08	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
	250# FLANGE	Ductile Iron ASTM A536-84 Grade: 65-45-12	Cast Iron ASTM A48/A48M-03 Class 30A	Stainless Steel ASTM A351/A 351M-08	N/A	Carbon Steel	Bronze ASTM B584-98A C92200	Ceramic/EPT	Copper & Brass C3600	N/A
OPTIONAL	125# OR 250#	N/A	N/A	N/A	Bronze ASTM B584-98A C92200	N/A	N/A	N/A	N/A	Ductile Iron ASTM A536-84 Grade 65-45-12

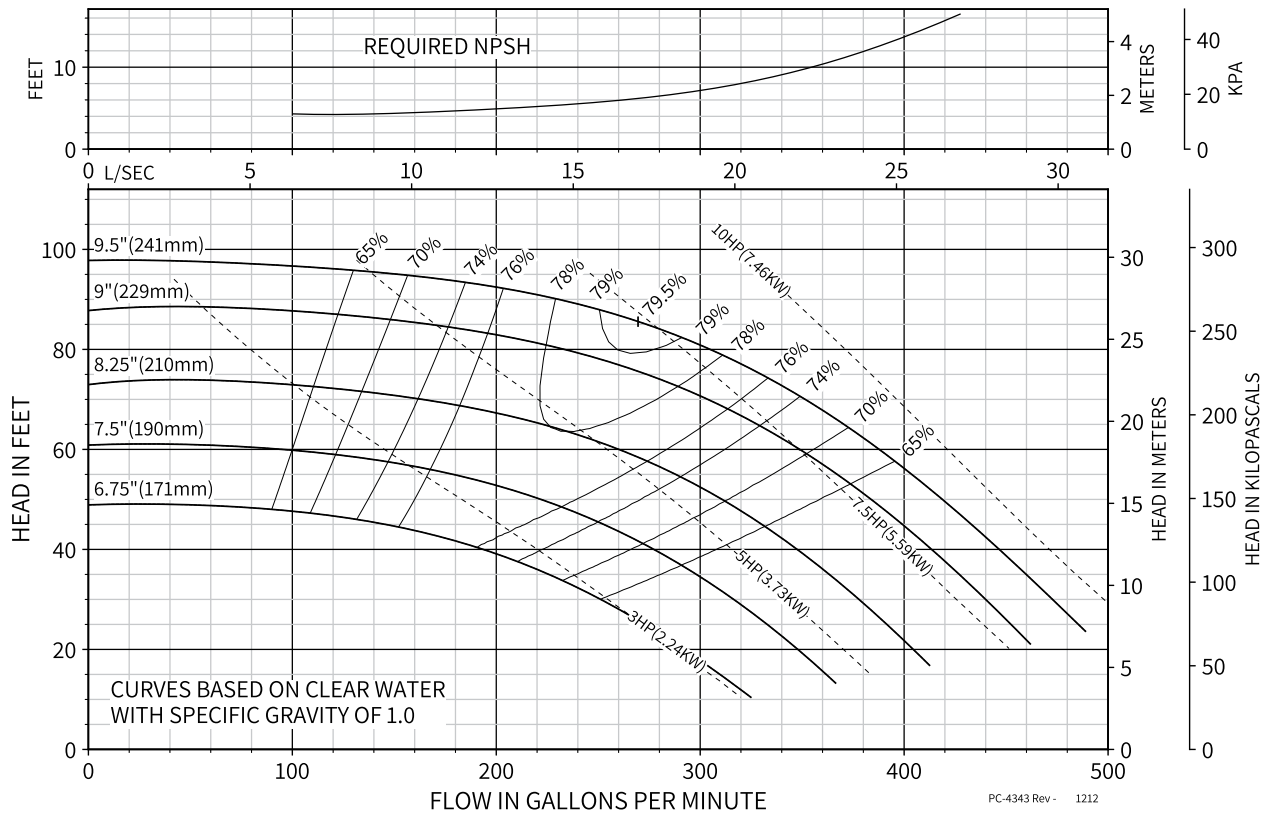
N/A - Not Available



## KV Series | Model: 3009D | 1760 RPM

Curve No. 4343 | Min. Imp. Dia. 6.75" | Size 3x3x9.5 | January 09, 2020

**Energy Efficiency Rating:** DOE Basic Model Number: KV3009D-4P-PM  
Pump & Motor: PEI<sub>CL</sub>: 0.86 | ER<sub>CL</sub>: 14



### COMMENTS



# Model:

## Tag: HWP-2

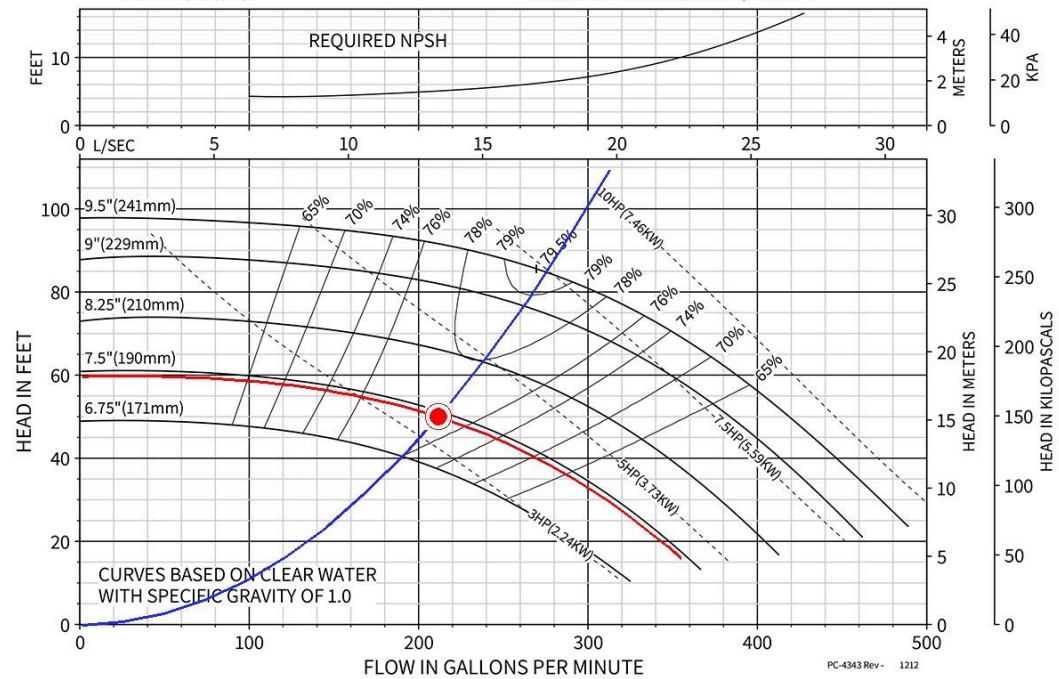
Flow Rate (GPM): 211  
 Head (FT): 50  
 Working Fluid: Water @ 60 F  
 Efficiency (%): 77%  
 Construction: Iron  
 Design Hp: 3.46  
 Nol Hp: 4.32  
 Motor Hp: 5  
 Npsh (Ft): 5  
 RPM: 1760



### KV Series | Model: 3009D | 1760 RPM

Curve No. 4343 | Min. Imp. Dia. 6.75" | Size 3x3x9.5 | January 09, 2020

Energy Efficiency Rating: DOE Basic Model Number: KV3009D-4P-PM  
 Pump & Motor: PE<sub>CL</sub>: 0.86 | ER<sub>CL</sub>: 14





# Submittal Data Information

## Suction Diffuser Rear Strainer Pullout (RSP)

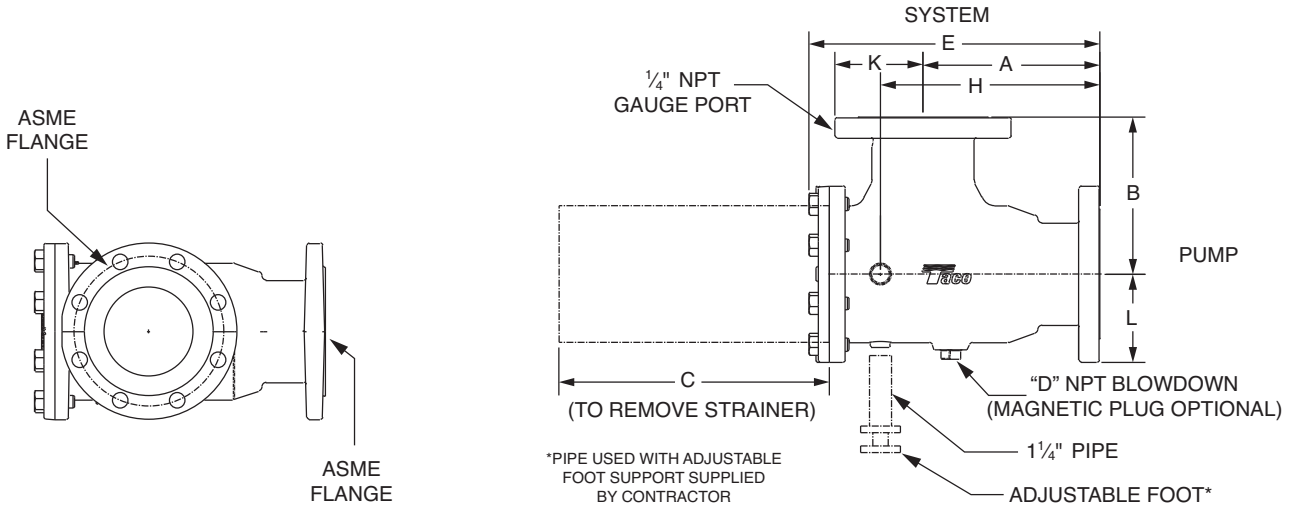
### “Flanged”

301-239.1

SUPERSEDES: September 17, 2013

EFFECTIVE: July 15, 2017

### DIMENSIONS



Model Number	System	Pump	C <sub>v</sub>	Free Area (sq. in.)	A (Class 125)*	A (Class 250)*	B	C	D	E (Class 125)*	E (Class 250)*	H (Class 125)*	H (Class 250)*	K (Class 125)*	K (Class 250)*	L (Class 125)*	L (Class 250)*	WGT. (Class 125)*	WGT. (Class 250)*
SD020015-5	2 Flanged	1½ Flanged	54	21	5.69 (145)	6.06 (154)	5.39 (137)	8.49 (216)	¾	9.25 (235)	9.62 (244)	6.92 (176)	7.29 (185)	3.00 (076)	3.25 (083)	2.50 (064)	3.06 (078)	22 (010)	27 (012)
SD020020-5	2 Flanged	2 Flanged	106	21	5.44 (138)	5.69 (145)	5.39 (137)	8.24 (209)	¾	9.00 (229)	9.25 (235)	6.67 (169)	6.92 (176)	3.00 (076)	3.25 (083)	3.00 (076)	3.25 (083)	24 (011)	28 (013)
SD025020-5	2½ Flanged	2 Flanged												3.50 (089)	3.75 (095)	3.00 (076)	3.25 (083)	27 (012)	35 (016)
SD030020-5	3 Flanged	2 Flanged												3.75 (095)	4.12 (105)	3.00 (076)	3.25 (083)	29 (013)	39 (018)
SD025025-5	2½ Flanged	2½ Flanged	135	24	6.06 (154)	6.56 (167)	6.01 (153)	8.97 (228)	¾	9.83 (250)	10.35 (263)	7.41 (188)	7.91 (201)	3.50 (089)	3.75 (095)	3.50 (089)	3.75 (095)	38 (017)	54 (025)
SD030025-5	3 Flanged	2½ Flanged			6.06 (154)	6.56 (167)	6.01 (153)		1	9.83 (250)		7.41 (188)	7.91 (201)	3.75 (095)	4.12 (105)	3.50 (089)	3.75 (095)	38 (017)	52 (024)
SD040025-5	4 Flanged	2½ Flanged			6.07 (154)	6.07 (154)	8.45 (215)		¾	8.93 (227)		7.59 (193)	7.59 (193)	4.43 (113)	4.93 (125)	3.50 (089)	3.75 (095)	52 (024)	65 (030)
SD030030-5	3 Flanged	3 Flanged	220	35	6.86 (174)	7.62 (194)	6.56 (167)	10.47 (266)	1	11.41 (290)	12.18 (309)	8.32 (211)	9.09 (231)	3.75 (095)	4.12 (105)	3.75 (095)	4.12 (105)	50 (023)	66 (030)
SD040030-5	4 Flanged	3 Flanged				6.86 (174)	8.94 (227)					8.51 (216)	8.51 (216)	4.93 (125)	5.43 (138)	3.75 (095)	4.13 (105)	65 (030)	83 (038)
SD050030-5	5 Flanged	3 Flanged				6.86 (174)	8.94 (227)					8.51 (216)	8.51 (216)	4.93 (125)	5.43 (138)	3.75 (095)	4.13 (105)	65 (030)	83 (038)
SD040040-5	4 Flanged	4 Flanged	380	64	7.94 (202)	8.93 (227)	8.45 (215)	12.86 (327)	1	13.96 (355)	14.90 (378)	10.29 (261)	11.28 (287)	4.50 (114)	5.00 (127)	4.50 (114)	5.00 (127)	73 (033)	91 (041)
SD050040-5	5 Flanged	4 Flanged												5.00 (127)	5.50 (140)	4.50 (114)	5.00 (127)	75 (034)	97 (044)
SD060040-5	6 Flanged	4 Flanged												5.50 (140)	6.25 (159)	4.50 (114)	5.00 (127)	79 (036)	109 (049)

NOTE: Dimensions are in inches. Metric dimensions are in millimeters and are in parentheses ( ). Weights are in lb (kg).

\*C' is the distance required to replace strainer.

\* Append 'A' for Class 250 working pressure flanged units (pump side) – e.g. Model Number SD040030-4A.

**DIMENSIONS (continued)**

Model Number	System	Pump	C <sub>v</sub>	Free Area (sq. in.)	A (Class 125)*	A (Class 250)*	B	C	D	E (Class 125)*	E (Class 250)*	H (Class 125)*	H (Class 250)*	K (Class 125)*	K (Class 250)*	L (Class 125)*	L (Class 250)*	WGT. (Class 125)*	WGT. (Class 250)*
SD050050-5	5 Flanged	5 Flanged	669	100	10.06 (256)	10.06 (256)	8.94 (227)	15.36 (390)	1	16.54 (420)	16.54 (420)	12.48 (317)	12.48 (317)	5.00 (127)	5.50 (140)	5.00 (127)	5.50 (140)	90 (041)	116 (053)
SD060050-5	6 Flanged	5 Flanged					5.50 (140)					6.25 (159)	5.00 (127)	5.50 (140)	96 (044)	127 (058)			
SD080050-5	8 Flanged	5 Flanged					13.21 (336)					12.67 (322)	12.67 (322)	6.68 (170)	7.43 (189)	5.00 (127)	5.50 (140)	151 (069)	194 (088)
SD060060-5	6 Flanged	6 Flanged	985	146	11.58 (294)	12.08 (307)	11.17 (284)	19.02 (483)	1	20.39 (518)	20.89 (531)	16.17 (411)	16.67 (423)	5.50 (140)	6.25 (159)	5.50 (140)	6.25 (159)	151 (069)	193 (088)
SD080060-5	8 Flanged	6 Flanged												6.75 (171)	7.50 (191)	5.50 (140)	6.25 (159)	170 (077)	215 (098)
SD100060-5	10 Flanged	6 Flanged												8.00 (203)	8.75 (222)	5.50 (140)	6.25 (159)	182 (083)	238 (108)
SD080080-5	8 Flanged	8 Flanged	1657	248	14.43 (367)	15.31 (389)	13.21 (336)	23.79 (604)	1	25.32 (643)	26.19 (685)	20.22 (514)	21.1 (536)	6.75 (171)	7.50 (191)	6.75 (171)	7.50 (191)	271 (123)	319 (145)
SD100080-5	10 Flanged	8 Flanged												8.00 (203)	8.75 (222)	6.75 (171)	7.50 (191)	284 (129)	351 (159)
SD120080-5	12 Flanged	8 Flanged												9.50 (241)	10.25 (260)	6.75 (171)	7.50 (191)	305 (138)	388 (176)
SD100100-5	10 Flanged	10 Flanged	2650	394	18.36 (466)	19.61 (498)	14.54 (369)	29.40 (747)	1	31.10 (790)	32.35 (822)	25.64 (651)	26.89 (683)	8.00 (203)	8.75 (222)	8.00 (203)	8.75 (222)	400 (182)	482 (219)
SD120100-5	12 Flanged	10 Flanged												9.50 (241)	10.25 (260)	8.00 (203)	8.75 (222)	420 (191)	518 (235)
SD140100-5	14 Flanged	10 Flanged												11.50 (292)	10.25 (260)	8.00 (203)	8.75 (222)	441 (200)	557 (253)
SD120120-5	12 Flanged	12 Flanged	3000	570	20.39 (518)	22.64 (575)	16.62 (422)	33.72 (856)	1	35.50 (902)	37.75 (959)	29.83 (758)	32.08 (815)	9.50 (241)	10.25 (260)	9.50 (241)	10.25 (260)	589 (267)	703 (319)
SD140120-5	14 Flanged	12 Flanged												11.50 (292)	11.50 (292)	9.50 (241)	10.25 (260)	617 (280)	786 (357)
SD160120-5	16 Flanged	12 Flanged												11.75 (298)	12.75 (324)	9.50 (241)	10.25 (260)	651 (296)	802 (364)
SD140140-5	14 Flanged	14 Flanged	3940	628	22.31 (567)	22.31 (567)	19.26 (489)	34.00 (864)	1	37.66 (957)	37.66 (957)	31.61 (803)	31.61 (803)	10.50 (267)	11.50 (292)	10.50 (267)	11.50 (292)	895 (406)	1049 (476)
SD160140-5	16 Flanged	14 Flanged												11.75 (298)	12.75 (324)	10.50 (267)	11.50 (292)	934 (424)	1106 (502)

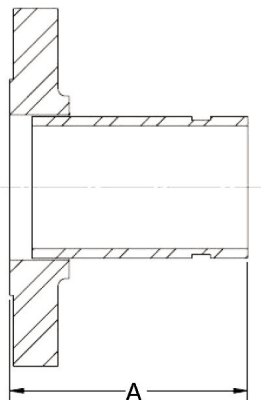
NOTE: Dimensions are in inches. Metric dimensions are in millimeters and are in parentheses ( ). Weights are in lb (kg). 'C' is the distance required to replace strainer.

\* Append 'A' for Class 250 working pressure flanged units (pump side) – e.g. Model Number SDG040030-4A.

**GROOVED ADAPTER**

**FLANGED - GROOVED**

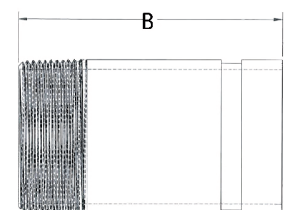
Class 125 Assembly Part No.	Class 250 Assembly Part No.	Size	'A'
FTG020-5	FTG020-5A	2"	4"
FTG025-5	FTG025-5A	2-1/2"	
FTG030-F	FTG030-5A	3"	
FTG040-5	FTG040-5A	4"	6"
FTG050-5	FTG050-5A	5"	
FTG060-5	FTG060-5A	6"	
FTG080-5	FTG080-5A	8"	8"
FTG100-5	FTG100-5A	10"	
FTG120-5	FTG120-5A	12"	
FTG140-5	FTG140-5A	14"	



**FLANGED - GROOVED**

**THREADED - GROOVED**

Class 125 + 250 Assembly Part No.	Size	'B'
TTG015-5	1-1/2"	4"
TTG020-5	2"	
TTG025-5	2-1/2"	



Note: Adapters required to convert flanged & threaded MPV to grooved.

## FEATURES

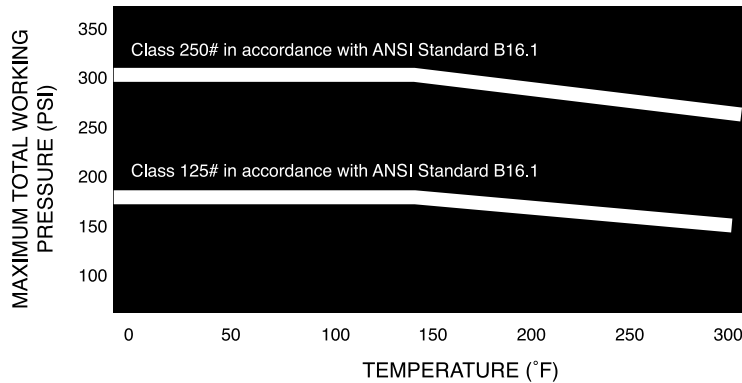
- Integral Cast Straightening Vanes ensure uniform flow to the suction inlet of the pump
- Oversized Body Cylinder ensures minimal pressure drop
- Metering Port allows for the monitoring of system conditions
- Disposable Fine Mesh Start-Up Strainer promotes cleaner, more trouble-free system
- Removable Cover Plate and reusable "O" Ring allows for easy access and maintenance of Permanent Strainer
- Blow Down port allows for routine maintenance and removal of sediment and debris
- Ductile Iron Body on all units
- Optional Magnetic Insert to trap small metallic particles
- Available with Class 125\* flanges or Class 250\* flanges. Consult pressure/temperature chart below for operating limitations. (Flanged units are raised faced design.)

(All sizes available with optional DIN Flanges. Consult factory for details)

## MATERIALS OF CONSTRUCTION

Body	- Ductile Iron
Cover	- Ductile Iron
Straightening Vanes	- Integral Ductile Iron
Permanent Strainer	- Stainless Steel (304)
Disposable Start Up Strainer	- Bronze (16 Mesh)
Cover O-Ring	- EPDM
Grooved Adapter	- Steel

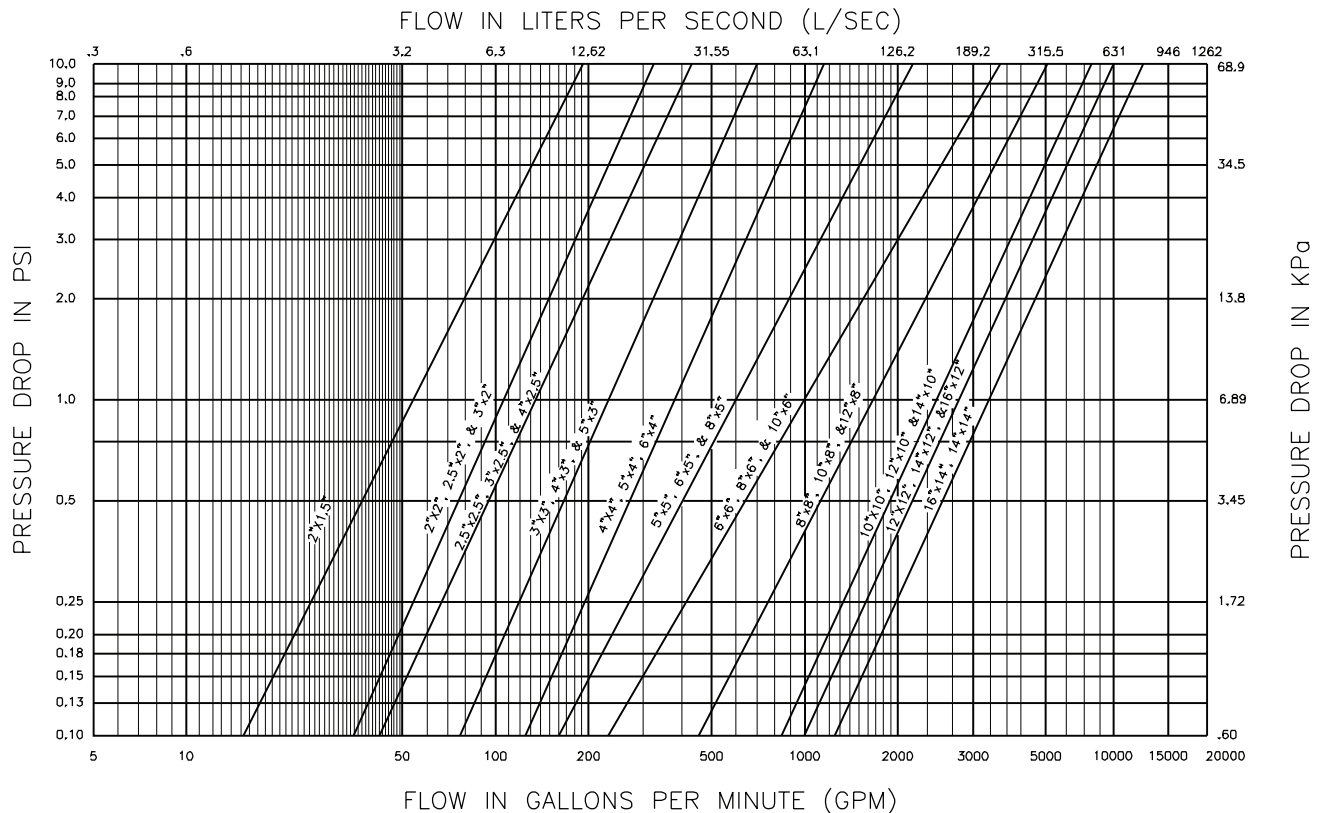
## PRESSURE TEMPERATURE RATINGS



## OPERATING SPECIFICATIONS

	Standard	Optional
Flange	Class 125*	Class 250*
Pressure	175 PSIG* (1210 KPA)	300 PSIG* (2070 KPA)
Temperature	250°F (120°C**)	250°F (120°C**)

\* Per Pressure Temperature Ratings chart to left.



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## DIMENSIONS

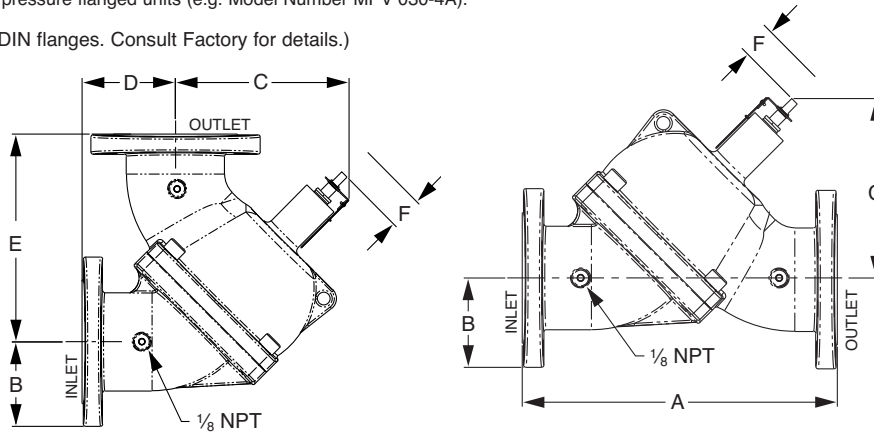
Model Number	Size	Connection	A	B (Class 125*)	B (Class 250*)	C	D	E	F	C <sub>v</sub>	Weight (125#)	Weight (250#)
MPV 015-4	1½ (38.1) NPT	Threaded	8.00 (203)	1.44 (037)	1.44 (037)	4.70 (119)	2.39 (061)	5.64 (143)	1.3 (33.0)	69	12 (5.5)	12 (5.5)
MPV 020-4	2 (50.8) NPT	Threaded	8.00 (203)	1.44 (037)	1.44 (037)	4.70 (119)	2.39 (061)	5.64 (143)	1.3 (33.0)	77	12 (5.5)	12 (5.5)
MPV 025-4	2½ (63.5) NPT	Threaded	10.63 (270)	1.93 (049)	1.93 (049)	4.97 (126)	3.50 (089)	7.30 (185)	1.6 (40.6)	122	32 (15)	32 (15)
MPV 030-4*	3 (76.2)	Flanged	11.75 (298)	3.75 (095)	4.13 (105)	6.15 (156)	3.90 (099)	7.85 (199)	1.8 (45.7)	209	38 (17)	46 (21)
<b>MPV 040-4*</b>	<b>4 (101.6)</b>	<b>Flanged</b>	<b>13.75 (349)</b>	<b>4.50 (114)</b>	<b>4.50 (114)</b>	<b>8.51 (216)</b>	<b>4.18 (106)</b>	<b>9.63 (245)</b>	<b>2.1 (53.3)</b>	<b>357</b>	<b>67 (30)</b>	<b>84 (38)</b>
MPV 050-4*	5 (127.0)	Flanged	17.63 (448)	5.00 (127)	5.50 (140)	11.26 (286)	5.25 (133)	12.28 (312)	2.4 (61.0)	459	105 (48)	126 (57)
MPV 060-4*	6 (152.4)	Flanged	20.35 (517)	5.50 (140)	6.25 (159)	11.28 (287)	6.07 (154)	14.23 (361)	2.7 (68.6)	701	134 (61)	176 (80)
MPV 080-4*	8 (203.2)	Flanged	25.88 (657)	6.75 (171)	7.50 (191)	13.58 (345)	6.75 (171)	19.13 (486)	3.9 (99.1)	1200	293 (133)	341 (155)
MPV 100-4*	10 (254.0)	Flanged	30.00 (762)	8.00 (203)	8.75 (222)	15.82 (402)	8.81 (224)	21.20 (538)	4.4 (111.8)	1826	466 (212)	536 (243)
MPV 120-4*	12 (304.8)	Flanged	36.70 (932)	9.50 (241)	10.25 (260)	17.54 (446)	9.98 (253)	26.64 (677)	4.9 (124.5)	2430	724 (329)	811 (368)
MPV 140-4*	14 (355.6)	Flanged	41.56 (1056)	10.50 (267)	11.50 (292)	22.80 (579)	12.09 (307)	29.47 (749)	5.4 (137.2)	3147	1105 (502)	1182 (537)

NOTE: Dimensions are in inches. Metric dimensions are in millimeters and are in parentheses ( ). Weights are in lb (kg).

'F' is the distance required to replace packing under pressure. 'A,C,D,E,F' applies to Class 250\* flanged units also.

\* Append 'A' for Class 250\* working pressure flanged units (e.g. Model Number MPV 030-4A).

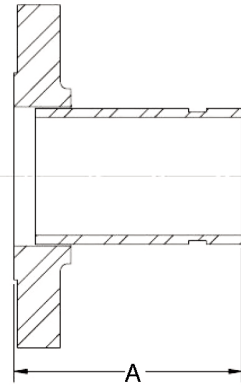
(All sizes available with optional DIN flanges. Consult Factory for details.)



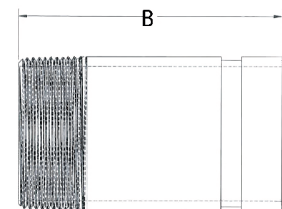
## GROOVED ADAPTER

Class 125 Assembly Part No.	Class 250 Assembly Part No.	Size	'A'
FTG020-5	FTG020-5A	2"	4"
FTG025-5	FTG025-5A	2-1/2"	
FTG030-5	FTG030-5A	3"	
FTG040-5	FTG040-5A	4"	6"
FTG050-5	FTG050-5A	5"	
FTG060-5	FTG060-5A	6"	
FTG080-5	FTG080-5A	8"	8"
FTG100-5	FTG100-5A	10"	
FTG120-5	FTG120-5A	12"	
FTG140-5	FTG140-5A	14"	

## THREADED - GROOVED



Class 125 + 250 Assembly Part No.	Size	'B'
TTG015-5	1-1/2"	4"
TTG020-5	2"	
TTG025-5	2-1/2"	



## FLANGED - GROOVED

Note: Adapters required to convert flanged & threaded MPV to grooved.

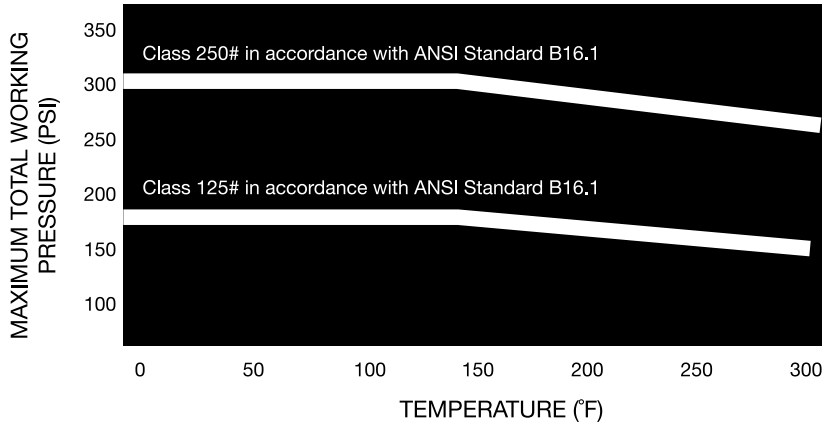
**FEATURES**

- Horizontal or Vertical Installation
- Field Convertible to a Right Angle Valve
- Stem Seal Packing (replaceable under pressure)
- Memory Indicator, Pointer and Scale
- Shradder Valve Metering Connections
- "O" Ring Sealed Valve Body
- Replaceable "Soft Seal"
- Low Pressure Drop (equal to or better than any comparable valve on the market today)
- Five (5) Valves in One:
  - Shut Off Valve
  - Flow Control Valve (globe style)
  - Non Slam Check Valve
  - Flow Metering Valve
  - Straight Pattern Valve Convertible to a Right Angle Pattern Valve
- Available with Class 125\* flanges or Class 250\* flanges. Consult pressure/temperature chart on page 2 for operating limitations. (Flanged units are raised faced design.)

**MATERIALS OF CONSTRUCTION**

- Body - Ductile Iron
- Spring - Stainless Steel (302)
- Gland - Bronze
- Stem Packing - Teflon Impregnated Aramid Fiber (asbestos free)
- Stem - Bronze/Stainless Steel (416)
- Seat - EPDM
- Seat Disc - Stainless Steel (304)
- Bronze for MPV140-4 only
- Body O-Ring - EPDM
- Adapter - Steel

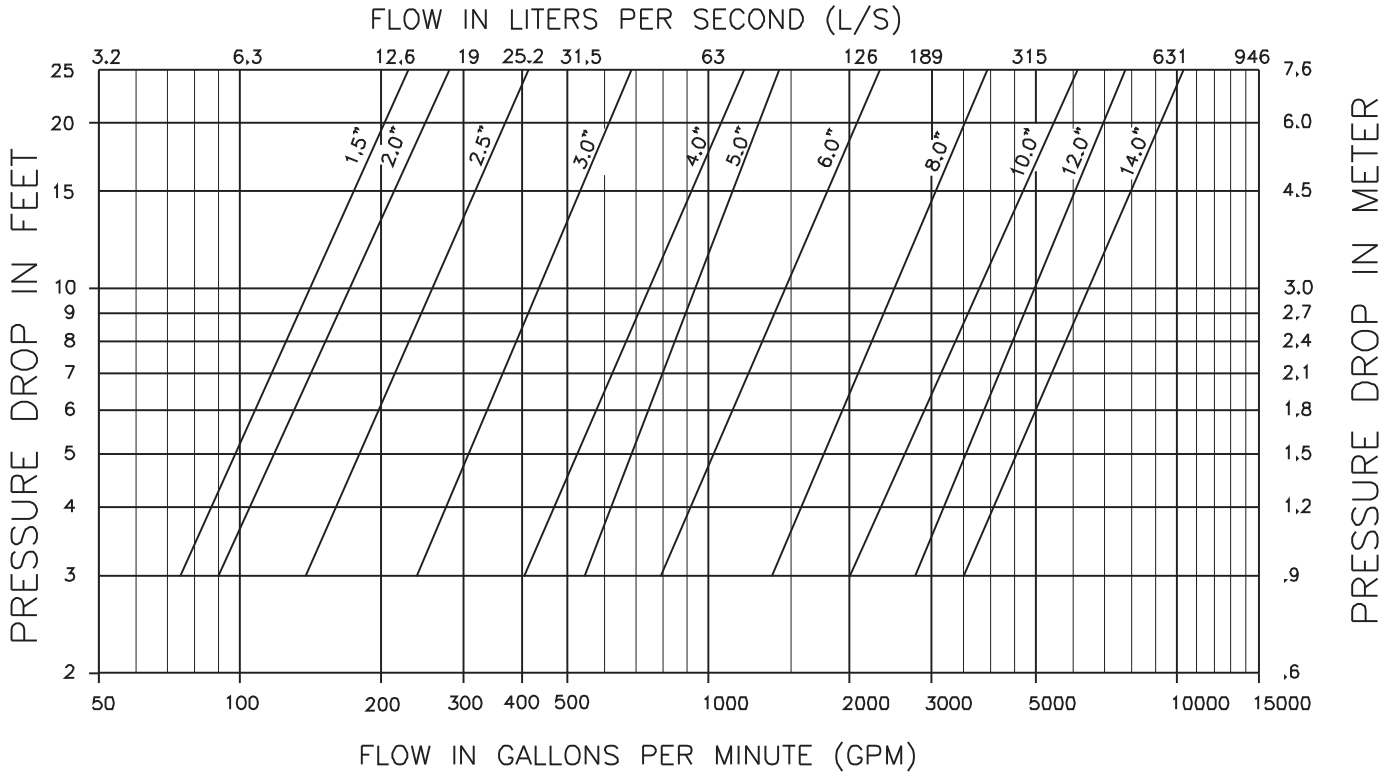
**PRESSURE TEMPERATURE RATINGS**



**OPERATING SPECIFICATIONS**

	Standard	Optional
Flange	Class 125*	Class 250*
Pressure	175 PSIG* (1210 KPA)	300 PSIG* (2070 KPA)
Temperature	250°F (120°C**)	250°F (120°C**)

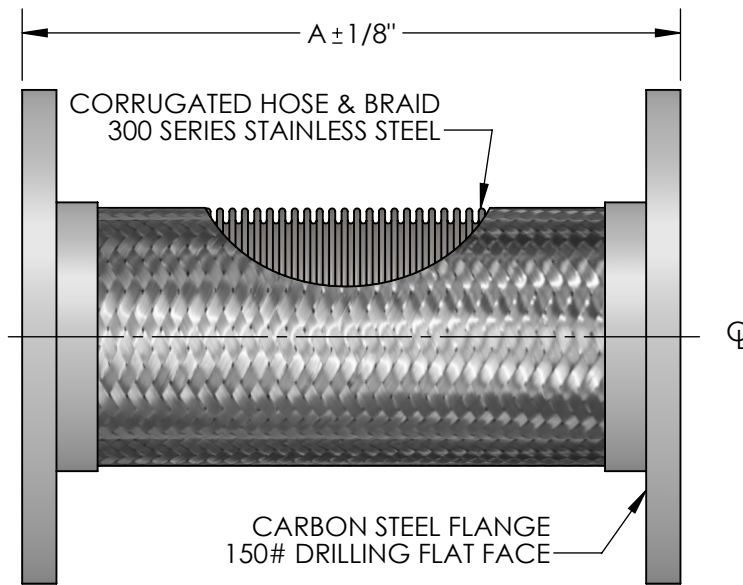
\*Per Pressure Temperature Ratings chart to left.



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**MODEL METRAMINI (MMCC)  
FLANGED FLEXIBLE PUMP CONNECTOR**

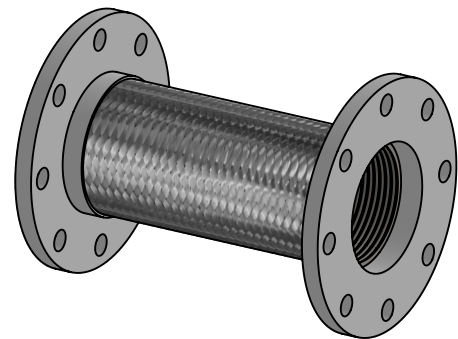


QTY	PART NUMBER	PIPE SIZE		A	PRESSURE RATING (PSI)*	WEIGHT (LBS)	PROJECT INFORMATION
		INCH	MM				
	MMCC0200	2"	50	9"	516	9	
	MMCC0250	2-1/2"	65	9"	387	13	
	MMCC0300	3"	80	9"	316	14	
4	MMCC0400	4"	100	9"	232	18	Cabarrus County BH
	MMCC0500	5"	125	11"	191	25	
	MMCC0600	6"	150	11"	165	28	
	MMCC0800	8"	200	12"	234	52	
	MMCC1000	10"	250	13"	230	75	
	MMCC1200	12"	300	14"	161	105	
	MMCC1400	14"	350	14"	150	115	
	MMCC1600	16"	400	14"	110	145	
	MMCC1800	18"	450	14"	85	165	

\*FOR SAFE WORKING PRESSURE ABOVE 70°F, MULTIPLY THE PRESSURE SHOWN AT 70°F TIMES THE CORRECTION FACTOR OF THE REQUIRED TEMPERATURE.

MAX INTERMITTENT OFFSET FROM CENTERLINE 1/8"  
MAX PERMANENT OFFSET FROM CENTERLINE 3/8"

TEMPERATURE (°F)	FACTOR
70	1.0
200	.91
300	.85
400	.78
500	.77
600	.76



**NSF 372 - LEAD FREE**

The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight. Material complies with state codes and standards, where applicable, requiring reduced lead content. Not suitable for potable water systems due to materials of construction.

REV.	2	16" & 18" ADDED	9/21/2017
	1	TEMP FACTOR UPDATED	DATE 12/28/2016
		2323 W. HUBBARD ST. CHICAGO, IL 60612 TEL: 312-738-3800 FAX: 312-738-0415 WWW.METRAFLEX.COM	
		<b>MODEL METRAMINI (MMCC) FLANGED FLEXIBLE PUMP CONNECTOR</b>	
DRAWN BY: <b>DKISH</b>		DATE: <b>1/10/2014</b>	
APPROVED: <b>JC</b>		DATE: <b>1/10/2014</b>	
SCALE: N/A		DRAWING NUMBER: <b>MMCC-2</b>	