

# NDP-5 Specifications

## Port Dimensions (3.1 GPM Max.)

Intake & discharge	1/4" Female NPT
Air inlet (incl. ball valve):	1/4" Female NPT
Air exhaust (internal silencer):	3/8" Female NPT

## Maximum Liquid Temperature

Fitted with PTFE diaphragm

Pump Material	Temperature
Groundable Acetal	180°F (82°C)
Polypropylene (PPG)	180°F (82°C)
Aluminum (ADC-12)	212°F (100°C)
Kynar® (PVDF)	212°F (100°C)
Stainless Steel (316)	212°F (100°C)

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

0.0078 gallons (29 cc)

**Maximum Cycles Per Minute:** 400

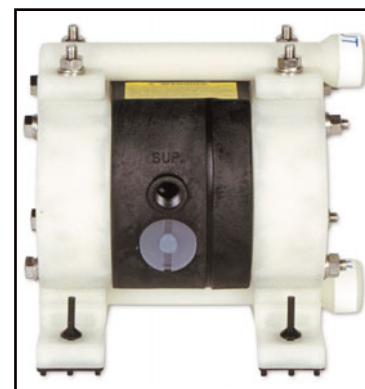
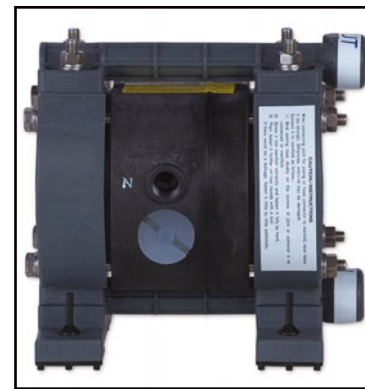
**Maximum Dry Suction Lift:** 5-feet

## Pump Air Motor

Ryton® air motor standard

## Model Number Nomenclature

Polypropylene (PPG)	NDP-5FPT
Kynar® (PVDF)	NDP-5FVT
Groundable Acetal	NDP-5FDT
Aluminum (ADC-12)	NDP-5FAT
Stainless Steel (316)	NDP-5FST



### Aluminum

**Dimensions:** 6.1" W × 5.87" H

**Net Wt.:** 3.3 lbs. (1.5 kg)

**Shipping Wt.:** 4.3 lbs.

### Stainless Steel

**Dimensions:** 6.1" W × 5.87" H

**Net Wt.:** 5.9 lbs. (2.68 kg)

**Shipping Wt.:** 6.9 lbs.

### Kynar® (PVDF)

**Dimensions:** 6.14" W × 5.79" H

**Net Wt.:** 3.7 lbs. (1.67 kg)

**Shipping Wt.:** 4.7 lbs.

### Groundable Acetal

**Dimensions:** 6.14" W × 5.79" H

**Net Wt.:** 3.7 lbs. (1.67 kg)

**Shipping Wt.:** 4.7 lbs.

### Polypropylene

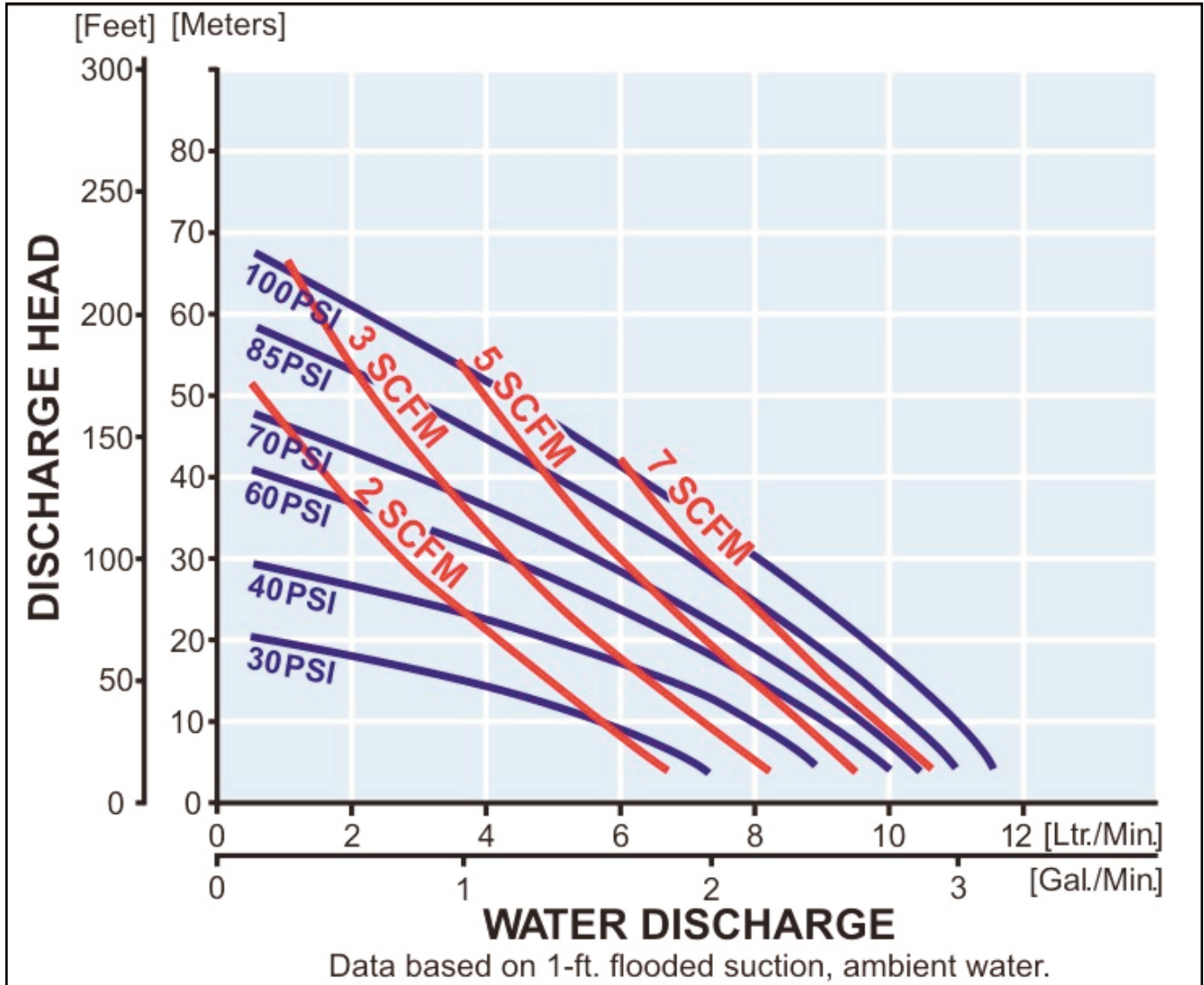
**Dimensions:** 6.14" W × 5.79" H

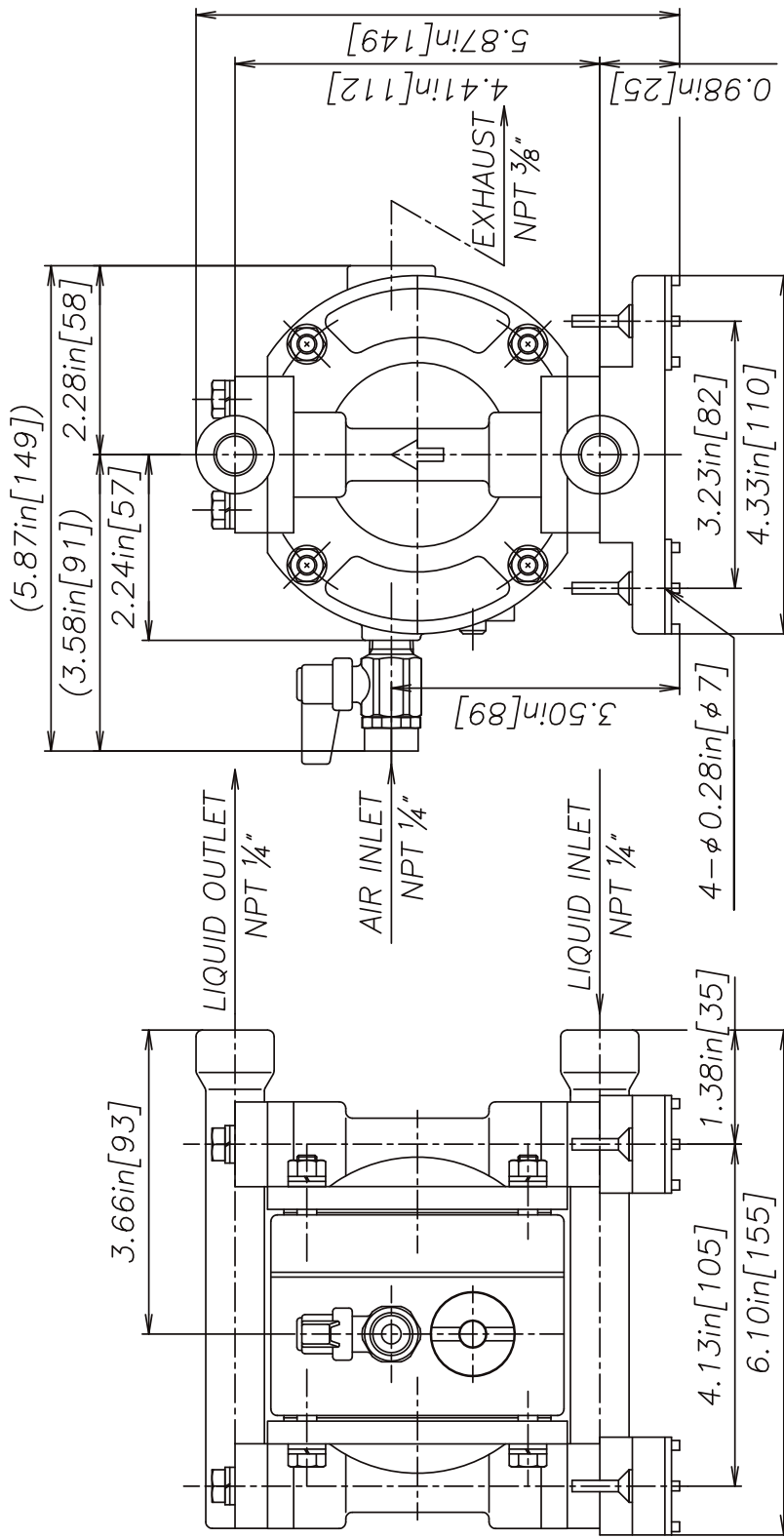
**Net Wt.:** 3.0 lbs. (1.36 kg)

**Shipping Wt.:** 4 lbs.

# NDP-5 Performance Curve

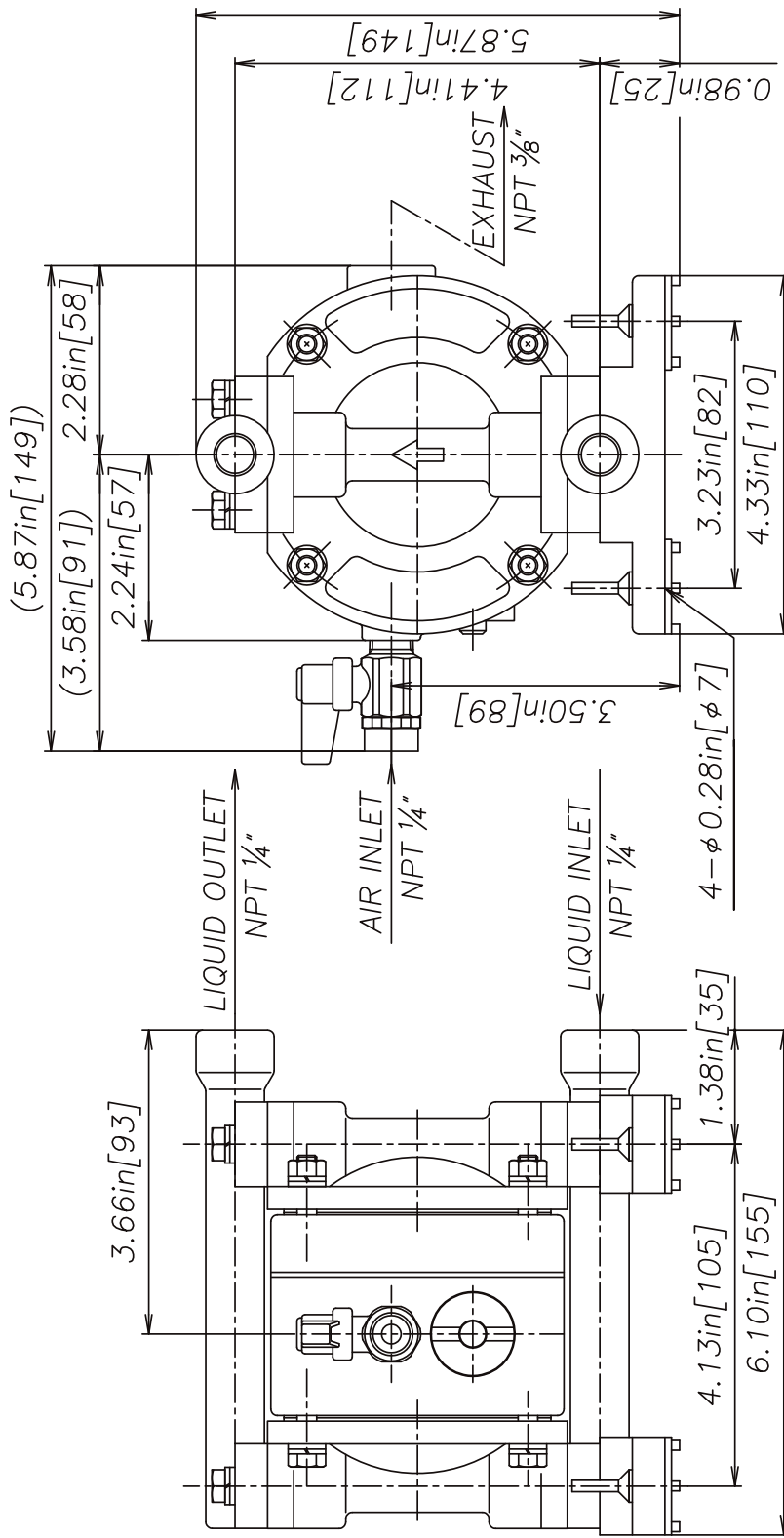
## All Diaphragm Materials





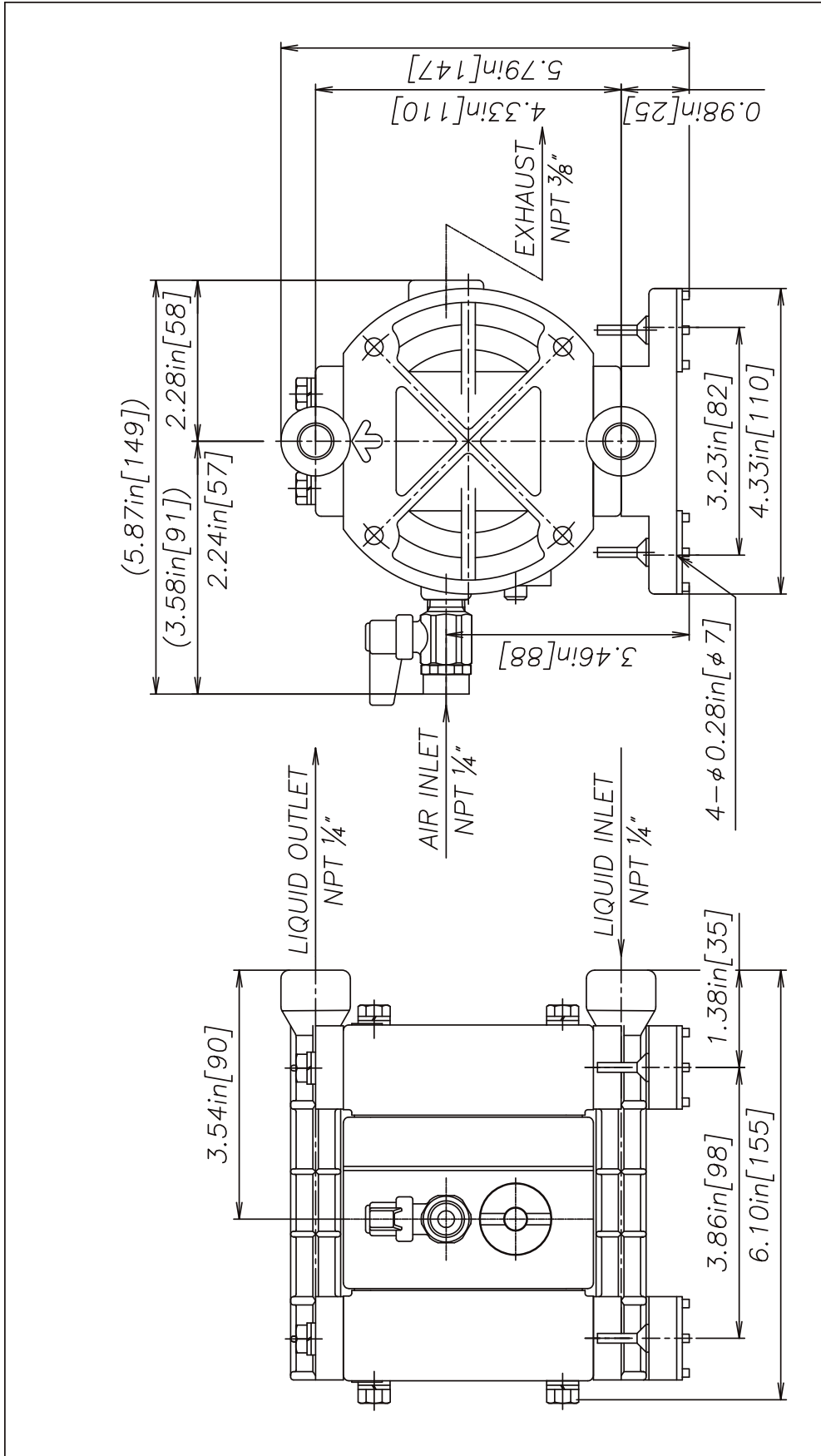
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DATE 02/08/06		APPROVED BY S.K.	
THIRD ANG.PROJ.	DRAWING NUMBER: <b>NDP-5FA</b>		REV <b>0</b>

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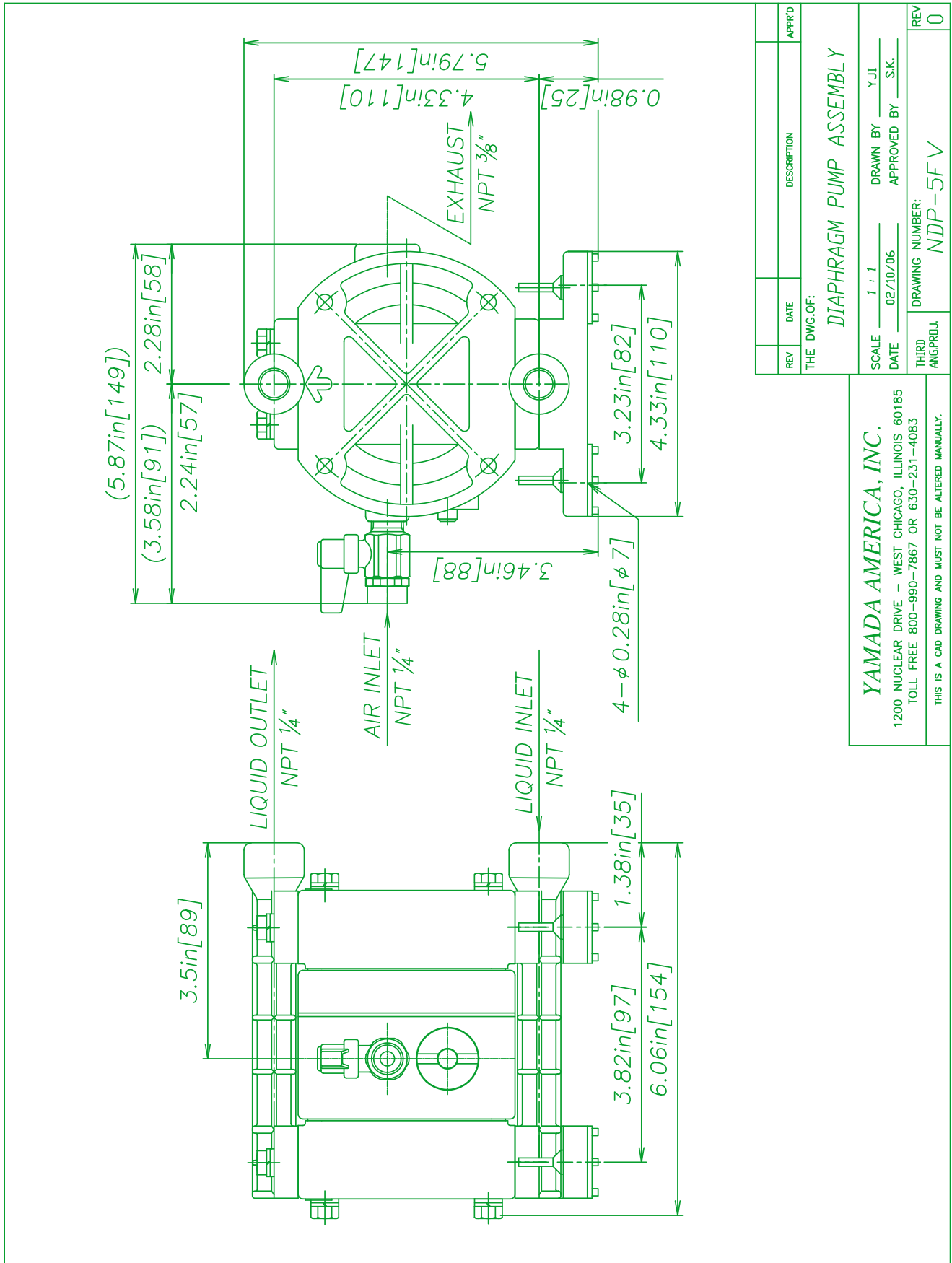
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THIRD ANGR.PROJ.      DRAWING NUMBER: **NDP-5FV**      REV: **0**

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# DP Series Specifications

## DP-10 Port Dimensions (6 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG)	3/8" Female NPT
Aluminum (ADC-12)	3/8" Female NPT
Stainless Steel (316)	3/8" Female NPT

## DP-15 Port Dimensions (7.4 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG)	1/2" Female NPT
Groundable Acetal	1/2" Female NPT

## Air Inlet / Exhaust

Air inlet (incl. ball valve):	1/4" Female NPT
Air exhaust (incl. silencer):	3/8" Female NPT

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
PTFE	212°F (100°C)
Hytrel® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal and Kynar® fitted pumps is determined by the elastomer (diaphragm material). Polypropylene and Groundable Acetal pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

DP-10: 0.020 gallons (76 cc)  
DP-15: 0.025 gallons (93 cc)

## Maximum Cycles Per Minute

All diaphragms: 300

## Maximum Size Solid

1/32" (1 mm)

## Maximum Dry Suction Lift

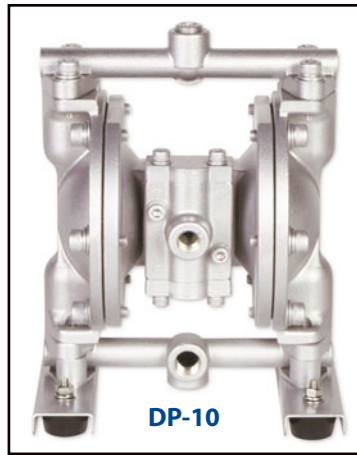
All diaphragms: 10-feet

## Air Motor

Aluminum Air Motor–Standard  
Optional coating: PTFE grey coated (XP)

## Optional Split Manifold—contact Yamada

Notes: Hytrel® fitted pumps include Buna N wetted o-rings.  
Santoprene® fitted pumps include EPDM wetted o-rings.



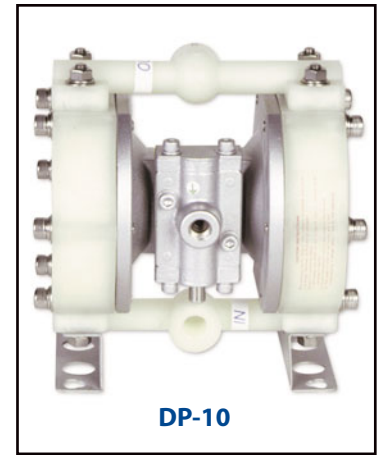
DP-10

### Aluminum

Dimensions: 7.32" W × 9.49" H  
Net Wt.: 7.9 lbs. (3.6 kg)  
Shipping Wt.: 9.9 lbs.

### Stainless Steel

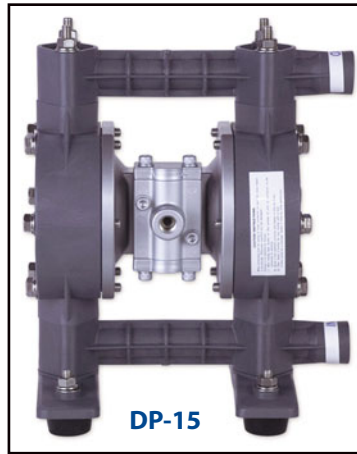
Dimensions: 7.32" W × 9.49" H  
Net Wt.: 11.7 lbs. (5.3 kg)  
Shipping Wt.: 13.7 lbs.



DP-10

### Polypropylene

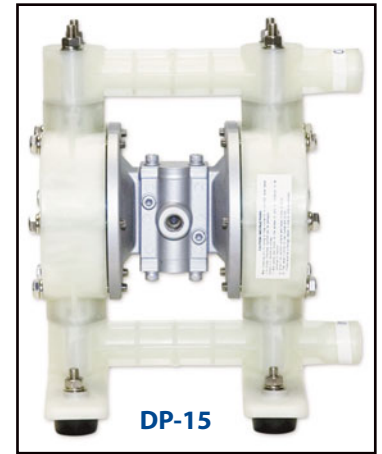
Dimensions: 7.72" W × 7.72" H  
Net Wt.: 6.8 lbs. (3.1 kg)  
Shipping Wt.: 8.8 lbs.



DP-15

### Groundable Acetal

Dimensions: 9.68" W × 11.69" H  
Net Wt.: 9 lbs. (4 kg)  
Shipping Wt.: 12 lbs.

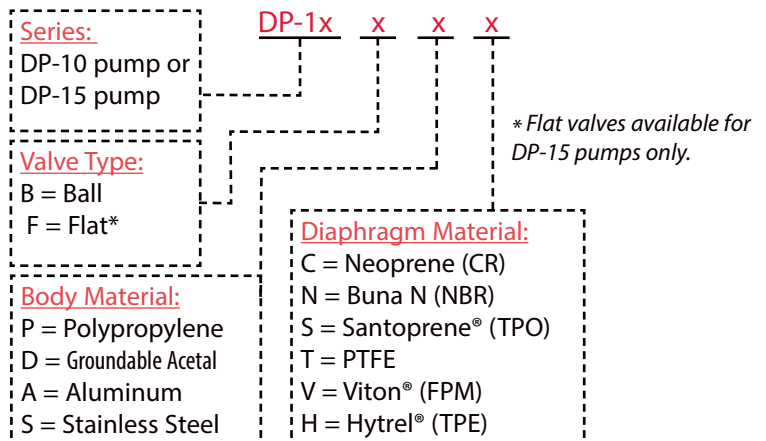


DP-15

### Polypropylene

Dimensions: 9.68" W × 11.69" H  
Net Wt.: 9 lbs. (4 kg)  
Shipping Wt.: 12 lbs.

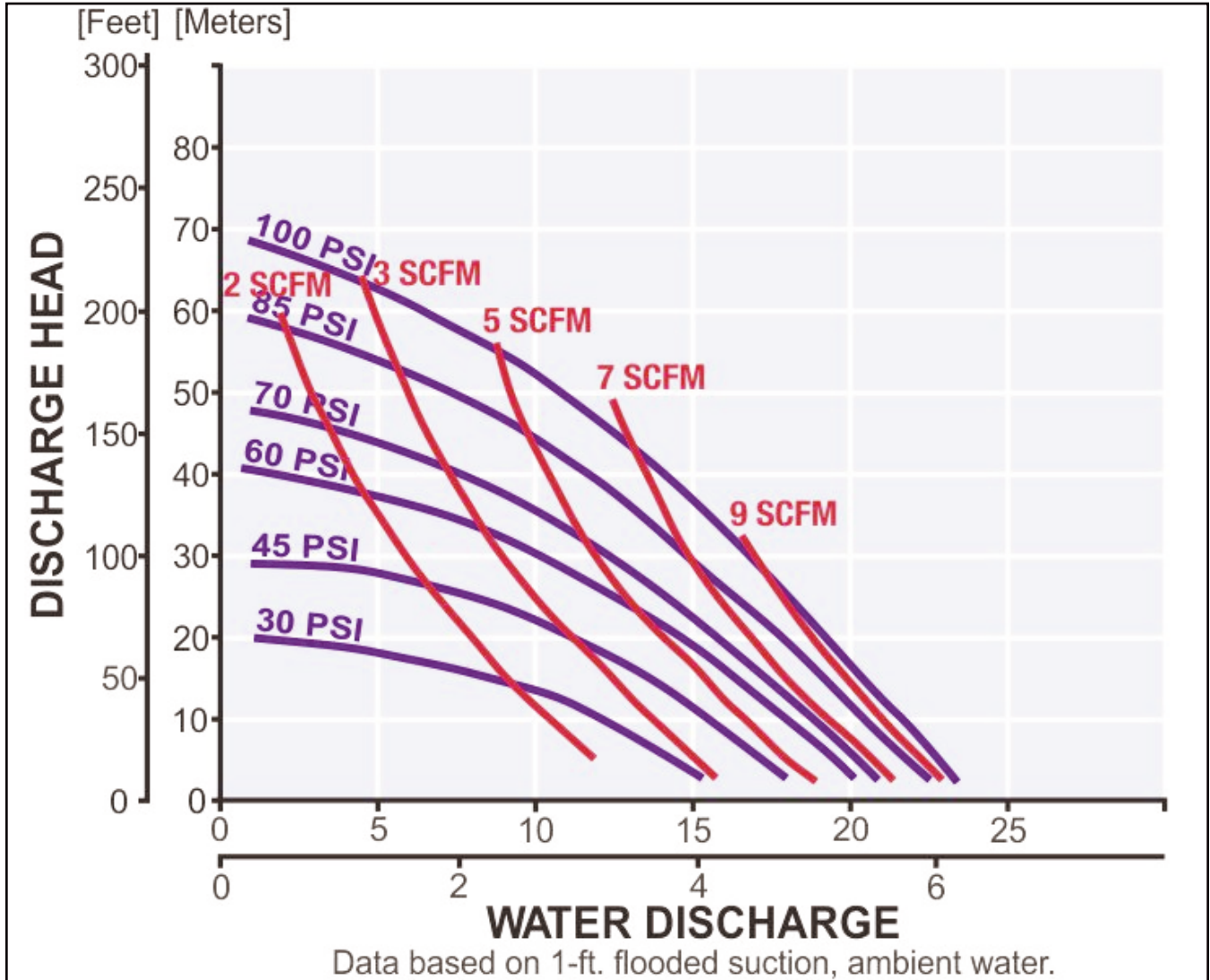
## Model Number Nomenclature





# DP-10 Performance Curve

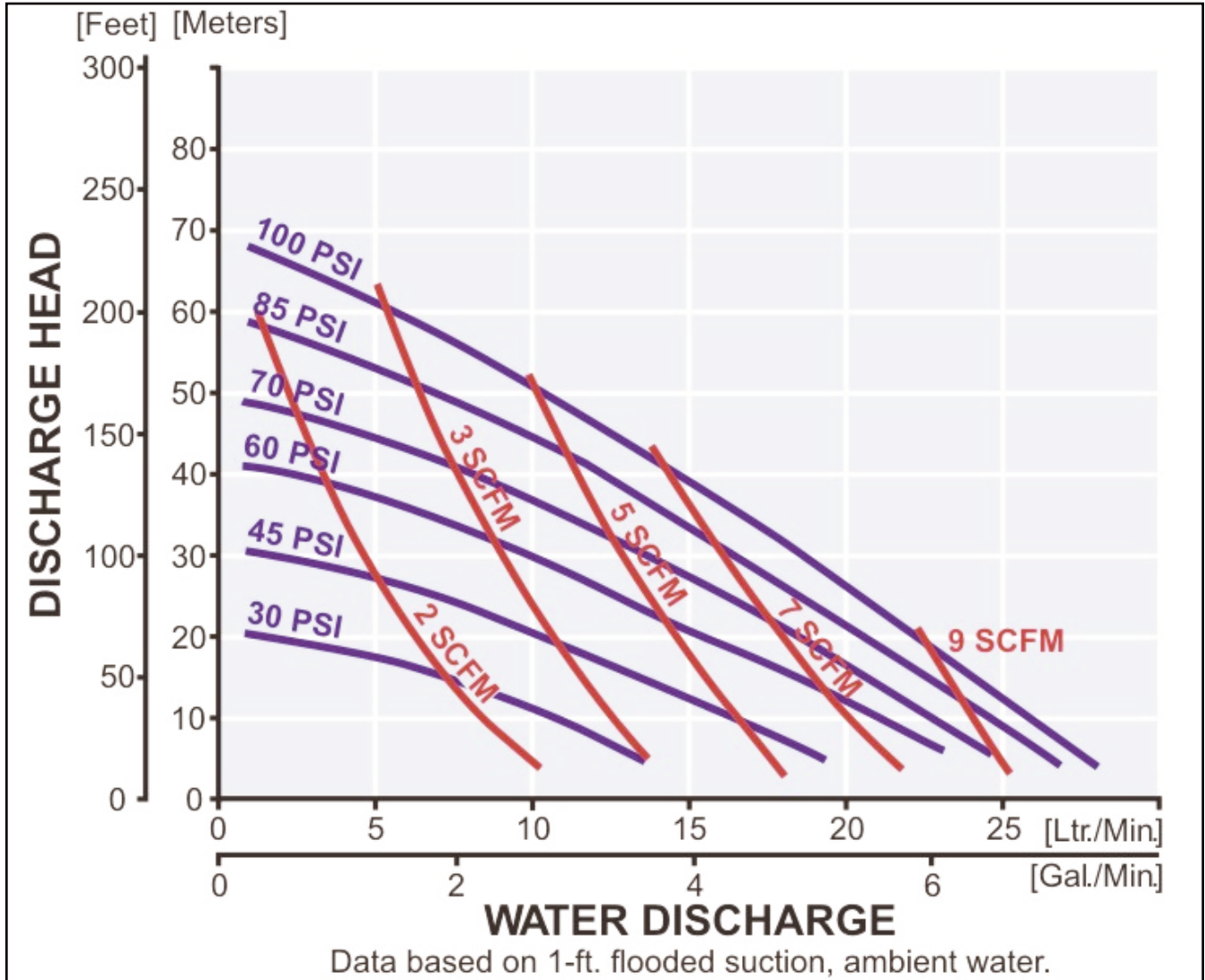
## All Diaphragm Materials



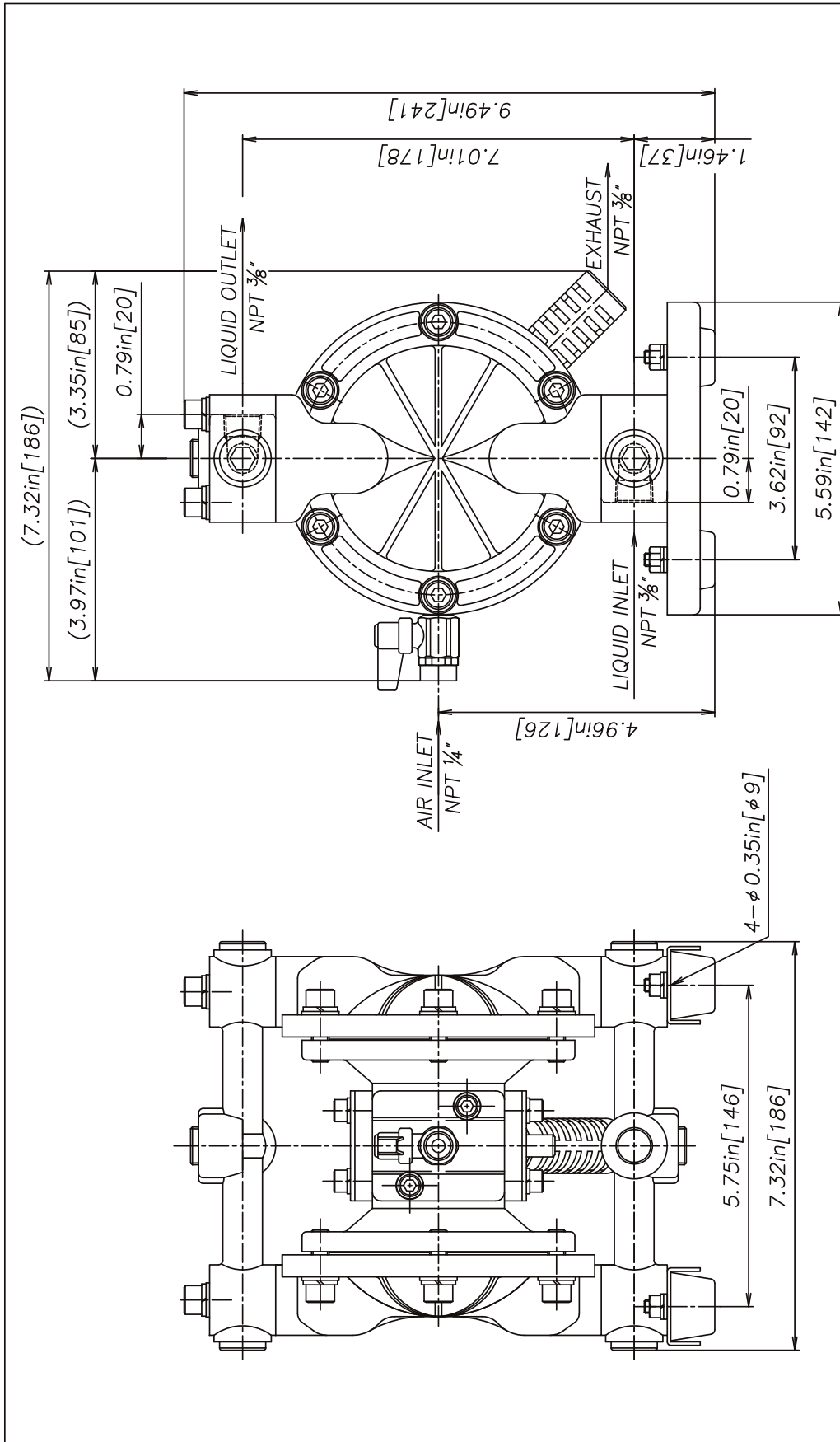
To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.

# DP-15 Performance Curve

## All Diaphragm Materials

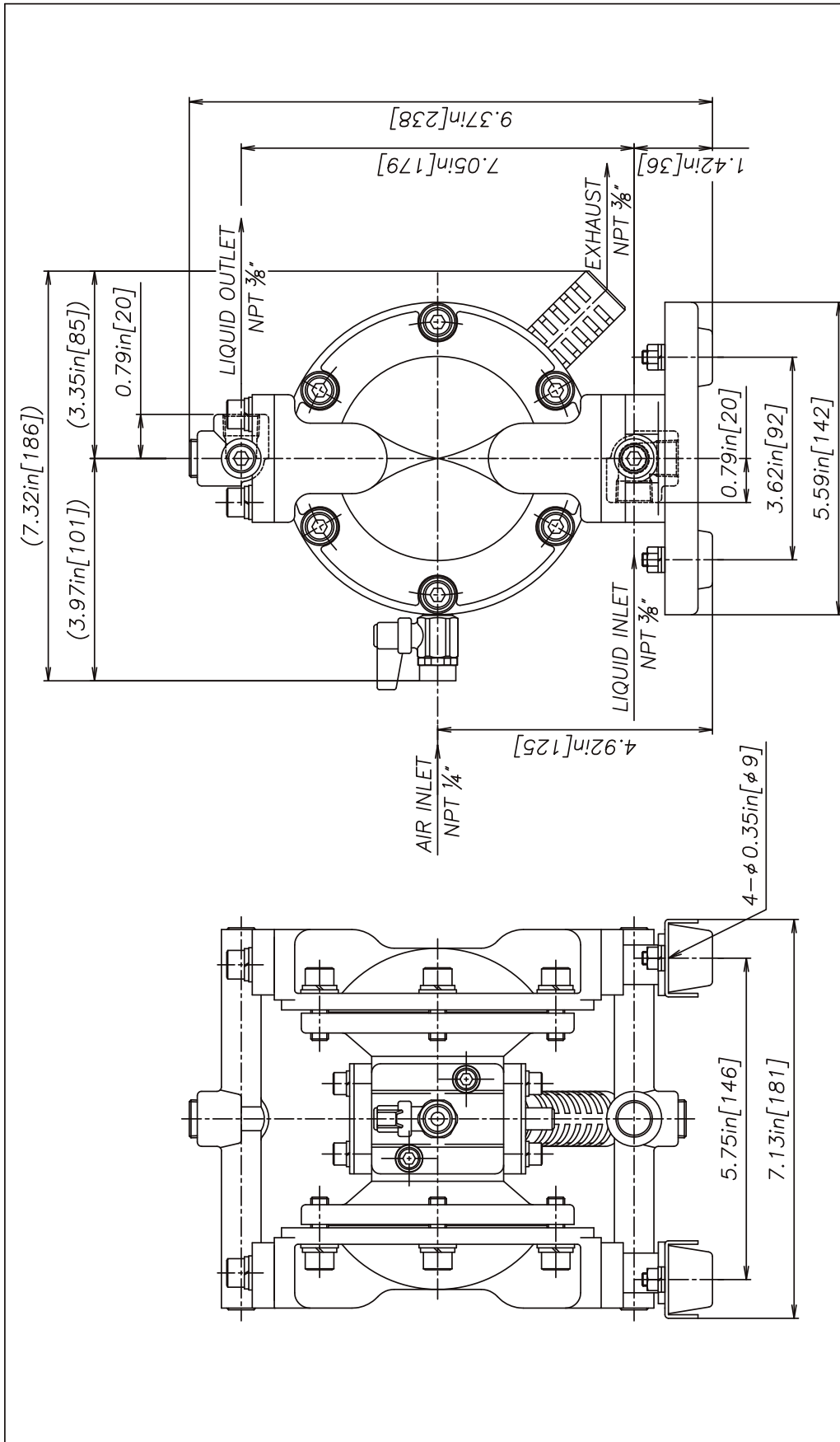


To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.



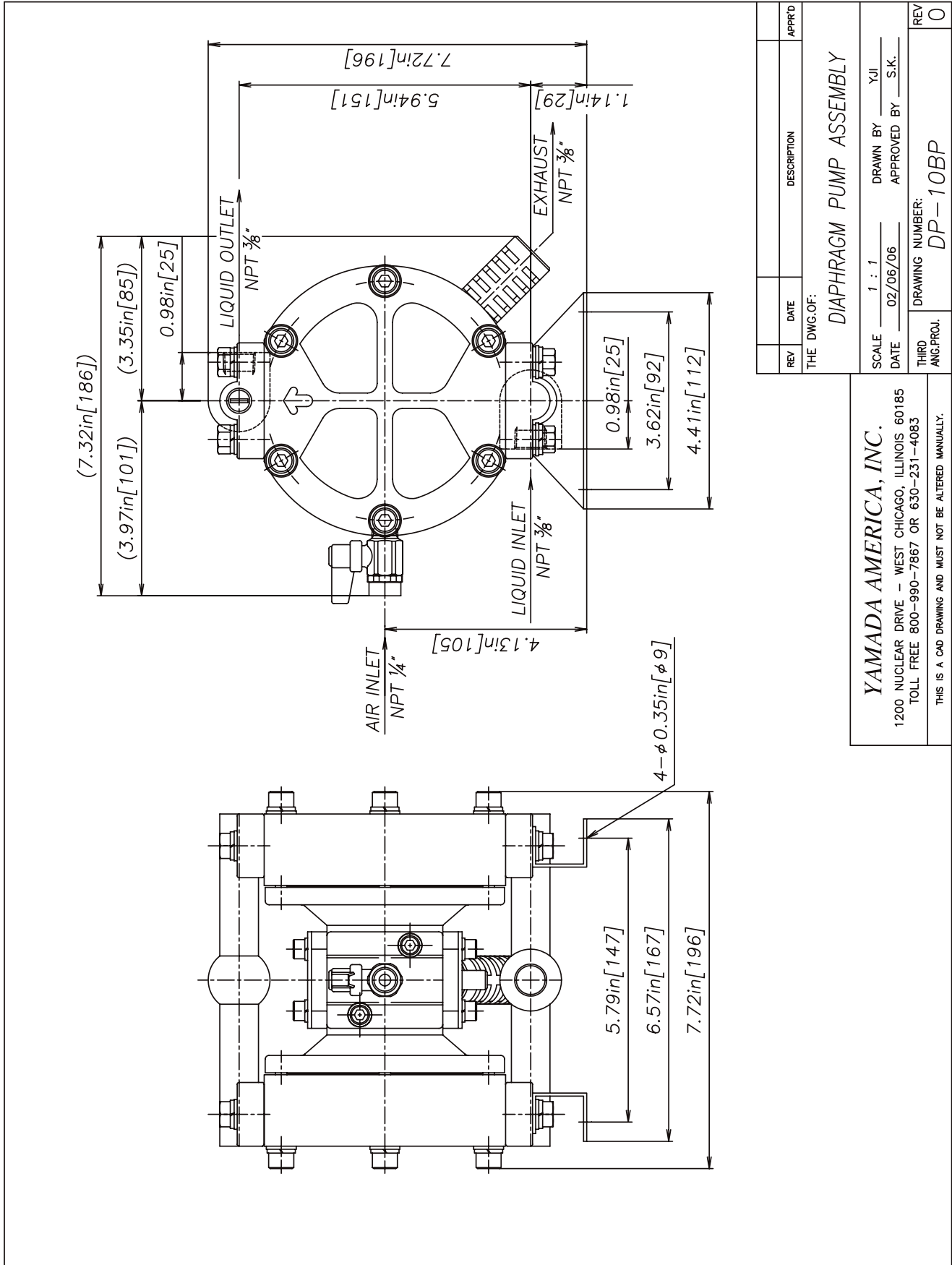
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DATE 02/06/06		APPROVED BY S.K.	
THIRD ANG. PROJ.	DRAWING NUMBER: DP-10BA		REV 0

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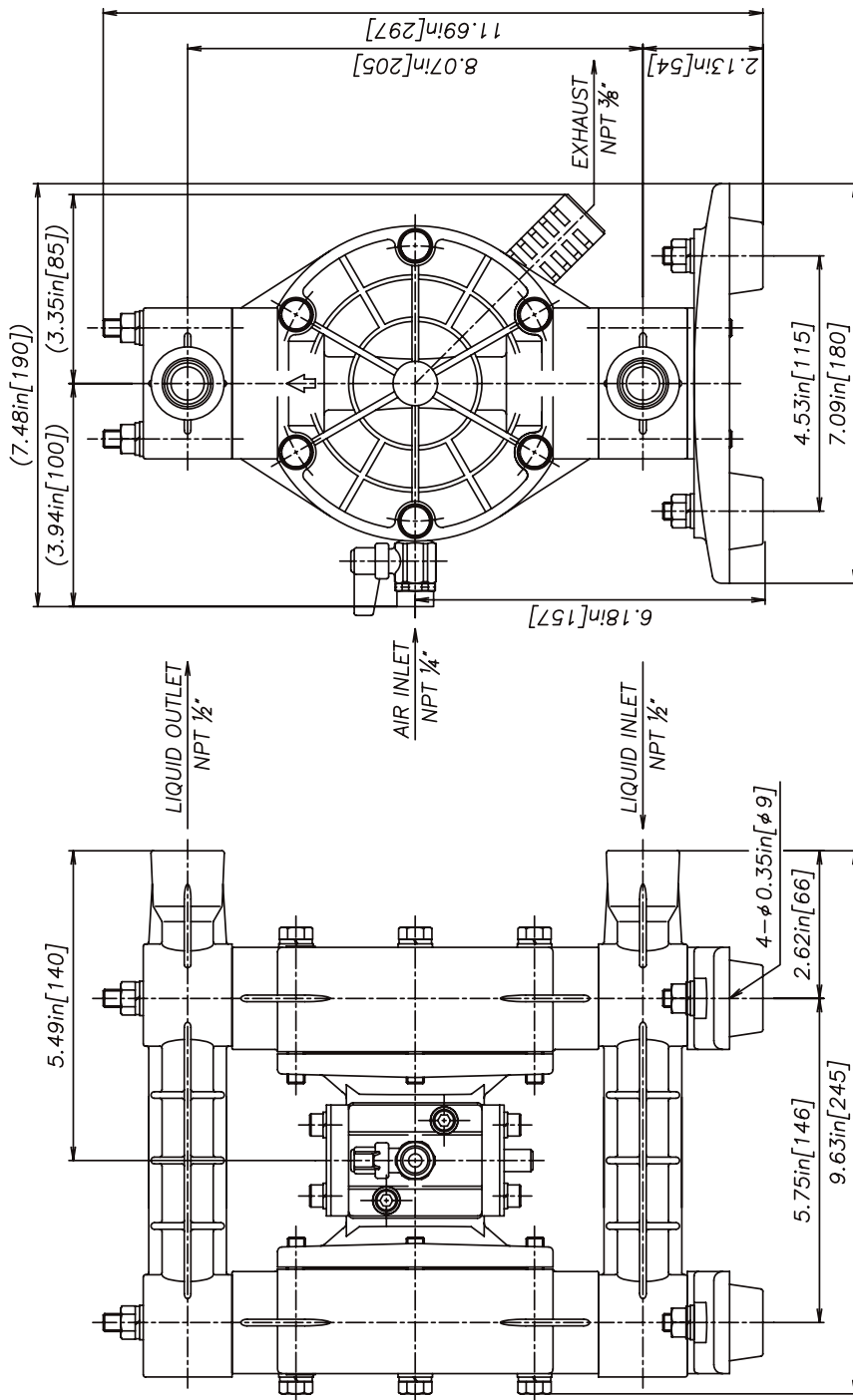
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DATE: 02/06/06      APPROVED BY: S.K.

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# NDP-15 Specifications

## Port Dimensions (13.5 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG) ■	1/2" Female NPT
Kynar® (PVDF) ◆	1/2" Female NPT
Groundable Acetal ◆	1/2" Female NPT
Aluminum (ADC-12) ▲	1/2" Female NPT
Stainless Steel (316) ▲	1/2" Female NPT
Air inlet (includes ball valve):	1/4" Female NPT
Air exhaust (internal silencer):	3/8" Female NPT

- Polypropylene pumps may be fitted with ball or flat check valves. Ball-type check valves are recommended for flooded suction applications. Flat-type check valves are recommended for suction lift applications.
- ◆ Kynar® and Groundable Acetal pumps are fitted with flat check valves only.
- ▲ Aluminum and Stainless Steel pumps are fitted with ball check valves only.

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
PTFE	212°F (100°C)
Hytrel® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal and Kynar® fitted pumps is determined by the elastomer (diaphragm material). Polypropylene and Groundable Acetal pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

0.0338 gallons (128 cc)

## Maximum Cycles Per Minute

All diaphragms: 400

## Maximum Size Solid: 1/32" (1 mm)

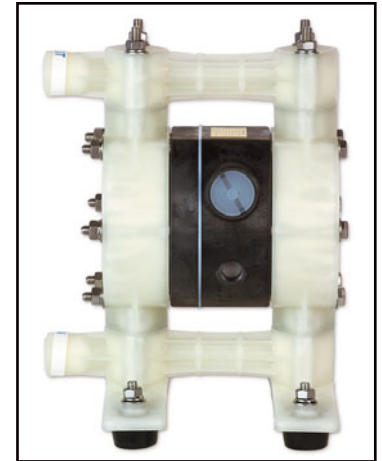
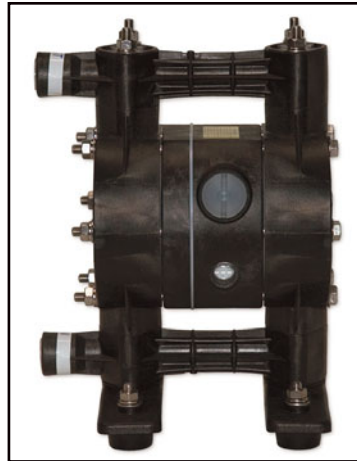
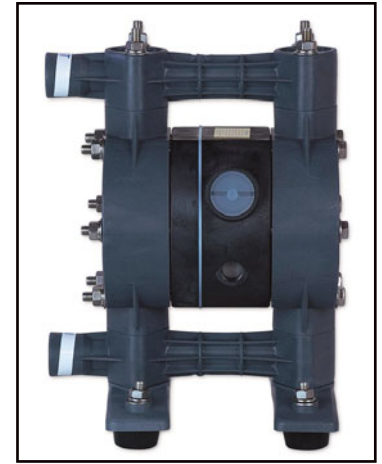
## Maximum Dry Suction Lift

Flat-type check valve: 8-feet

Ball-type check valve: 5-feet

## Pump Air Motor: Ryton® air motor standard

Notes: Hytrel® fitted pumps include Buna N wetted o-rings. Santoprene® fitted pumps include EPDM wetted o-rings.



### Aluminum

**Dimensions:** 8.66" W × 10.71" H

**Net Wt.:** 9 lbs. (4 kg)

**Shipping Wt.:** 11 lbs.

### Stainless Steel

**Dimensions:** 8.31" W × 9.7" H

**Net Wt.:** 13.6 lbs. (6.16 kg)

**Shipping Wt.:** 15.5 lbs.

### Kynar® (PVDF)

**Dimensions:** 8.66" W × 11.73" H

**Net Wt.:** 9.4 lbs. (4.2 kg)

**Shipping Wt.:** 11 lbs.

### Groundable Acetal

**Dimensions:** 8.66" W × 11.73" H

**Net Wt.:** 9 lbs. (4 kg)

**Shipping Wt.:** 11 lbs.

### Polypropylene

**Dimensions:** 8.66" W × 11.73" H

**Net Wt.:** 7.7 lbs. (3.5 kg)

**Shipping Wt.:** 9.5 lbs.

## Model Number Nomenclature

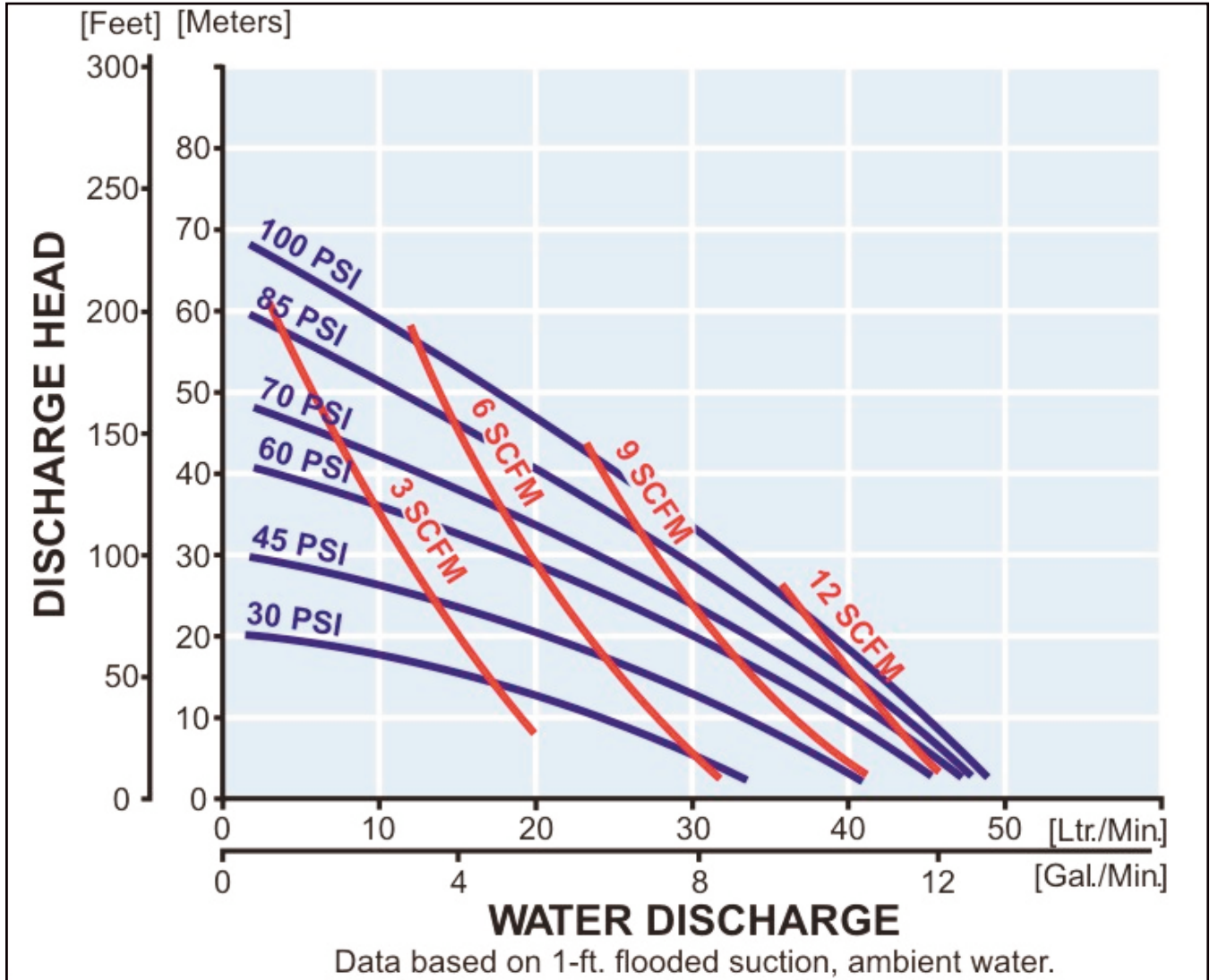
<b>Series:</b> NDP-15 Pump	<b>NDP-15</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Valve Type:</b> B = Ball F = Flat*				
<b>Body Material:</b> P = Polypropylene V = Kynar® (PVDF) D = Groundable Acetal A = Aluminum S = Stainless Steel				
<b>Diaphragm Material:</b> C = Neoprene (CR) N = Buna N (NBR) S = Santoprene® (TPO) T = PTFE V = Viton® (FPM) H = Hytrel® (TPE)				

\* Flat valves are available for plastic pumps only.

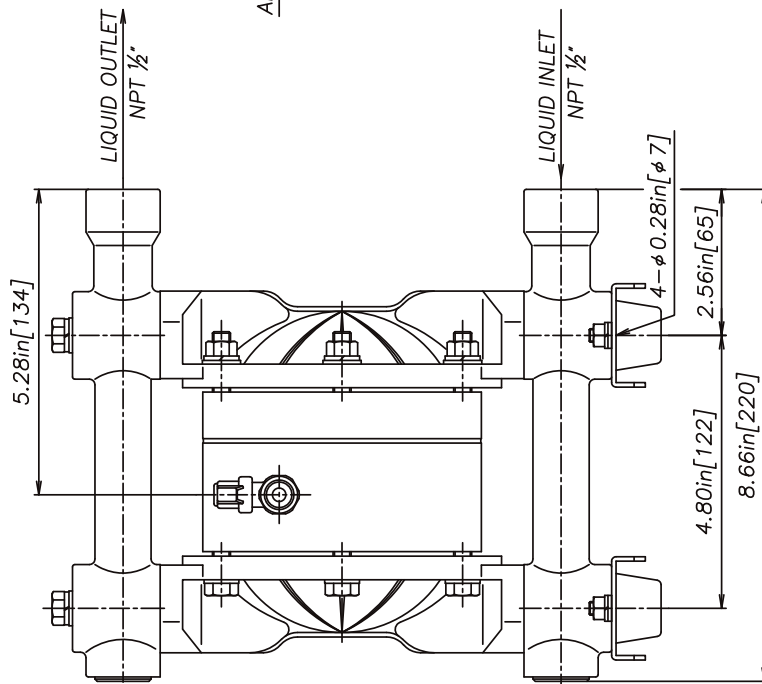
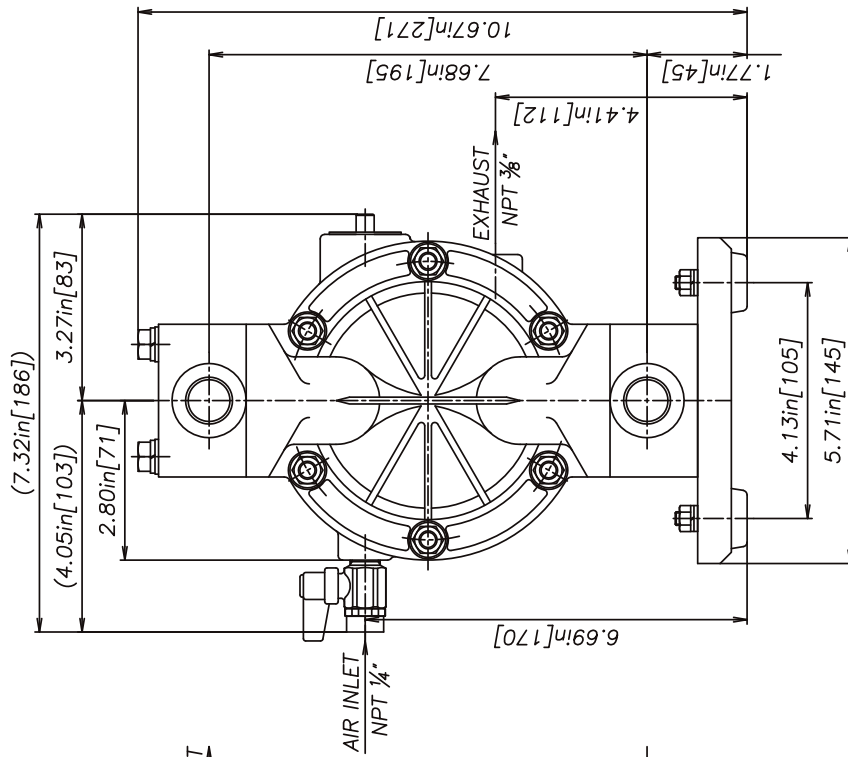


# NDP-15 Performance Curve – All Valves

## All Diaphragm Materials

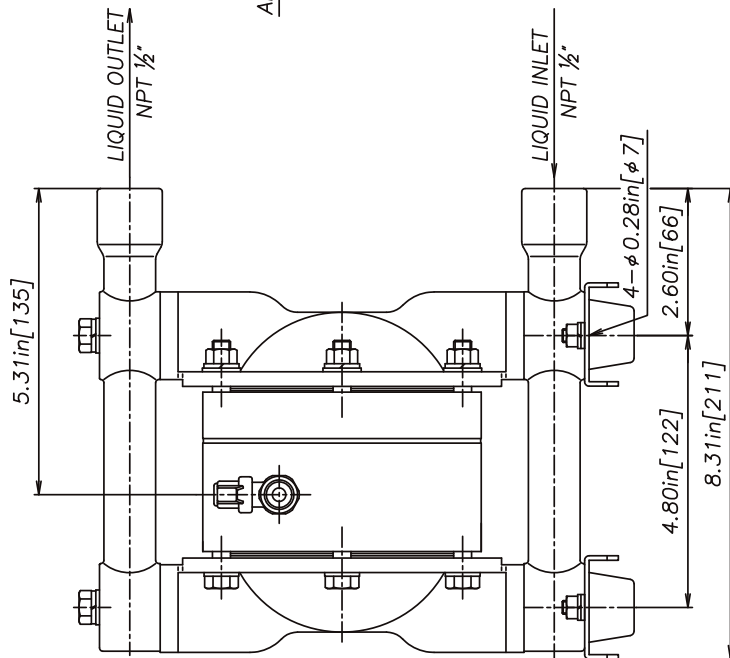
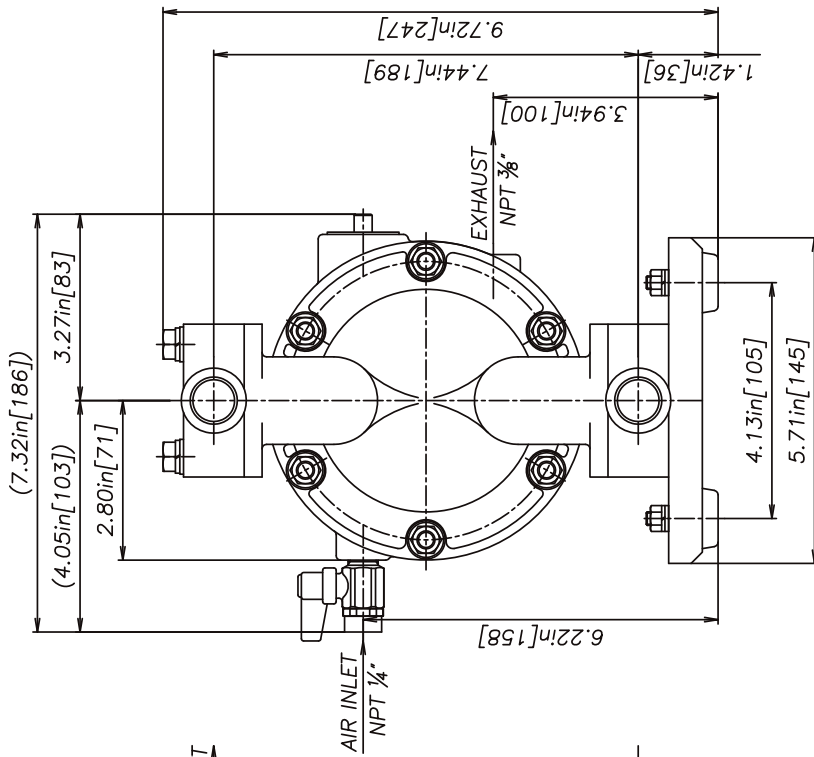


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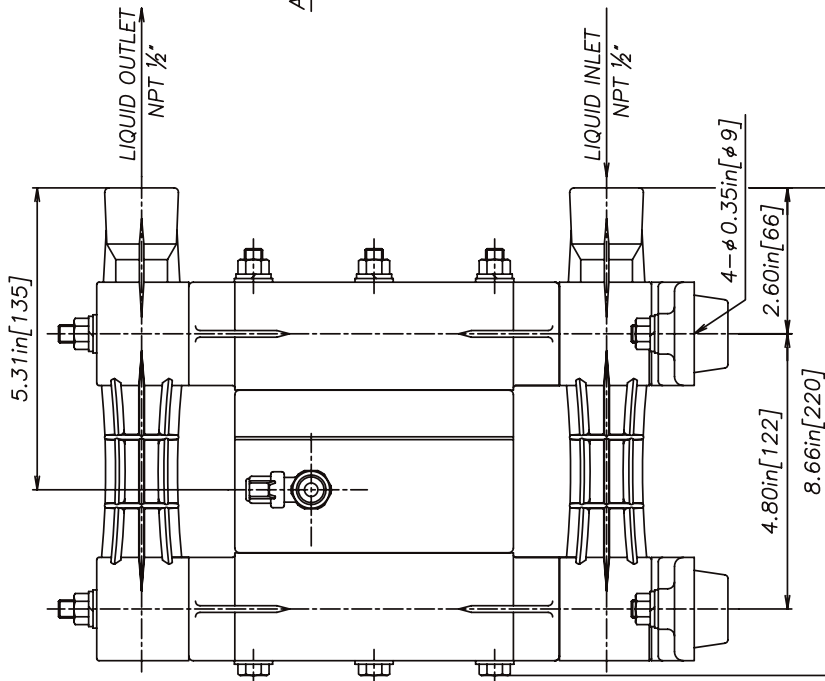
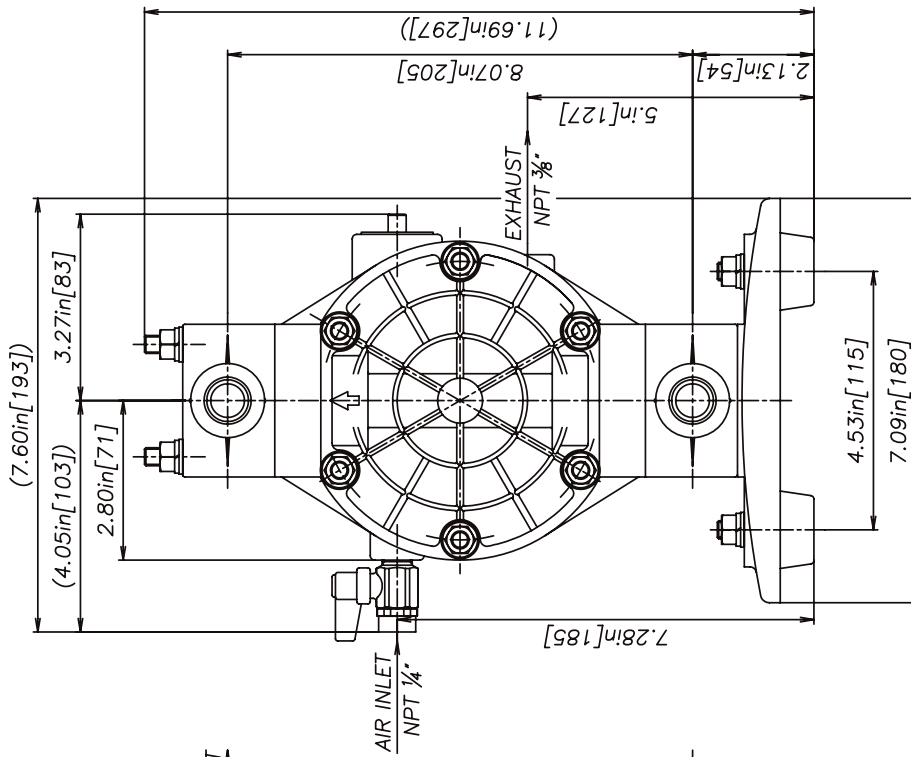


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	NDP-15F/B PLASTIC		0

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# NDP-20 Specifications

## Port Dimensions (31.7 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG)	3/4" Female NPT
Aluminum (ADC-12)	3/4" Female NPT
Stainless Steel (316)	3/4" Female NPT
Air inlet (incl. ball valve):	1/4" Female NPT
Air exhaust (incl. silencer):	3/4" Female NPT

**ANSI Flange** also available — consult Yamada.

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
EPDM	212°F (100°C)
PTFE	212°F (100°C)
Hytrel® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal and Kynar® fitted pumps is determined by the elastomer (diaphragm material). Polypropylene pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kgf/cm)

## Discharge Volume Per Cycle

Rubber diaphragm: 0.163 gallons (615 cc)  
PTFE diaphragm: 0.143 gallons (539 cc)

## Maximum Cycles Per Minute

Rubber diaphragm: 195  
PTFE diaphragm: 195

## Maximum Size Solid

1/16" (2.0 mm)

## Maximum Dry Suction Lift

Rubber-fitted pump capability: 18-feet

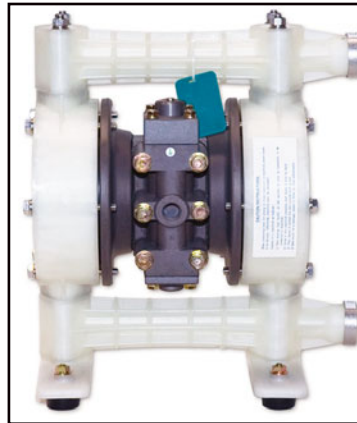
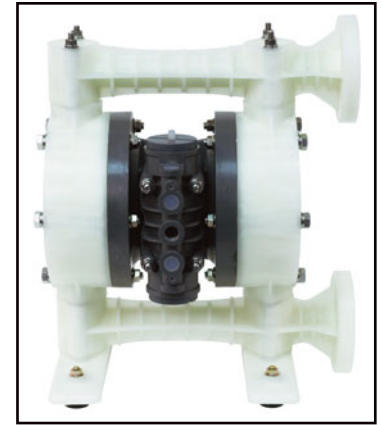
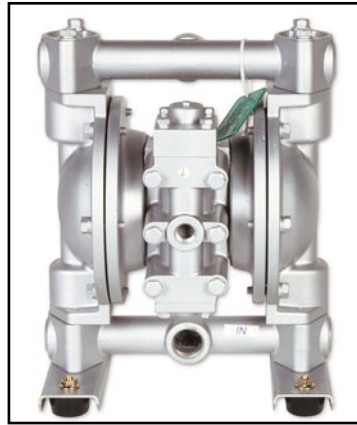
## Air Motors

Aluminum air motor is standard on metal pumps. Polypropylene air motor is standard on polypropylene and Kynar® pumps.

**Optional air motors:** Polypropylene air motor for metal pumps; PTFE grey coating (XP) for aluminum motors.

## Optional Split Manifold—contact Yamada

Notes: Hytrel® fitted pumps include Buna N check balls & wetted o-rings. Santoprene® fitted pumps include Santoprene® check balls & EPDM wetted o-rings.



## Aluminum (NPT)

**Dimensions:** 9.80" W × 12.60" H  
**Net Wt.:** 19.8 lbs. (9.0 kg)  
**Shipping Wt.:** 23 lbs.

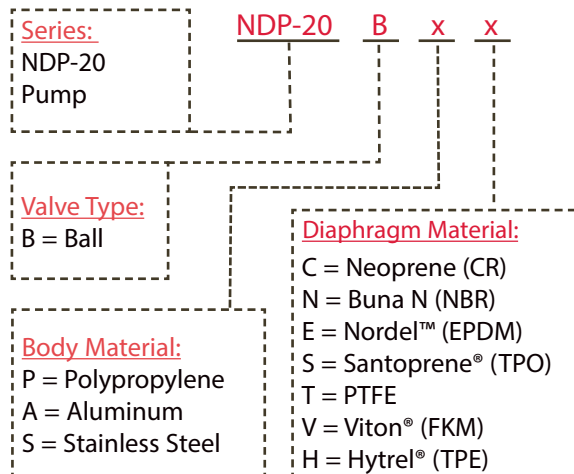
## Polypropylene

**ANSI Flange Dimensions:**  
12.44" W × 14.75" H  
**NPT Dimensions:**  
12.44" W × 14.50" H  
**Net Wt.:** 17.6 lbs. (8.2 kg)  
**Shipping Wt.:** 22.6 lbs.

## Stainless Steel (NPT)

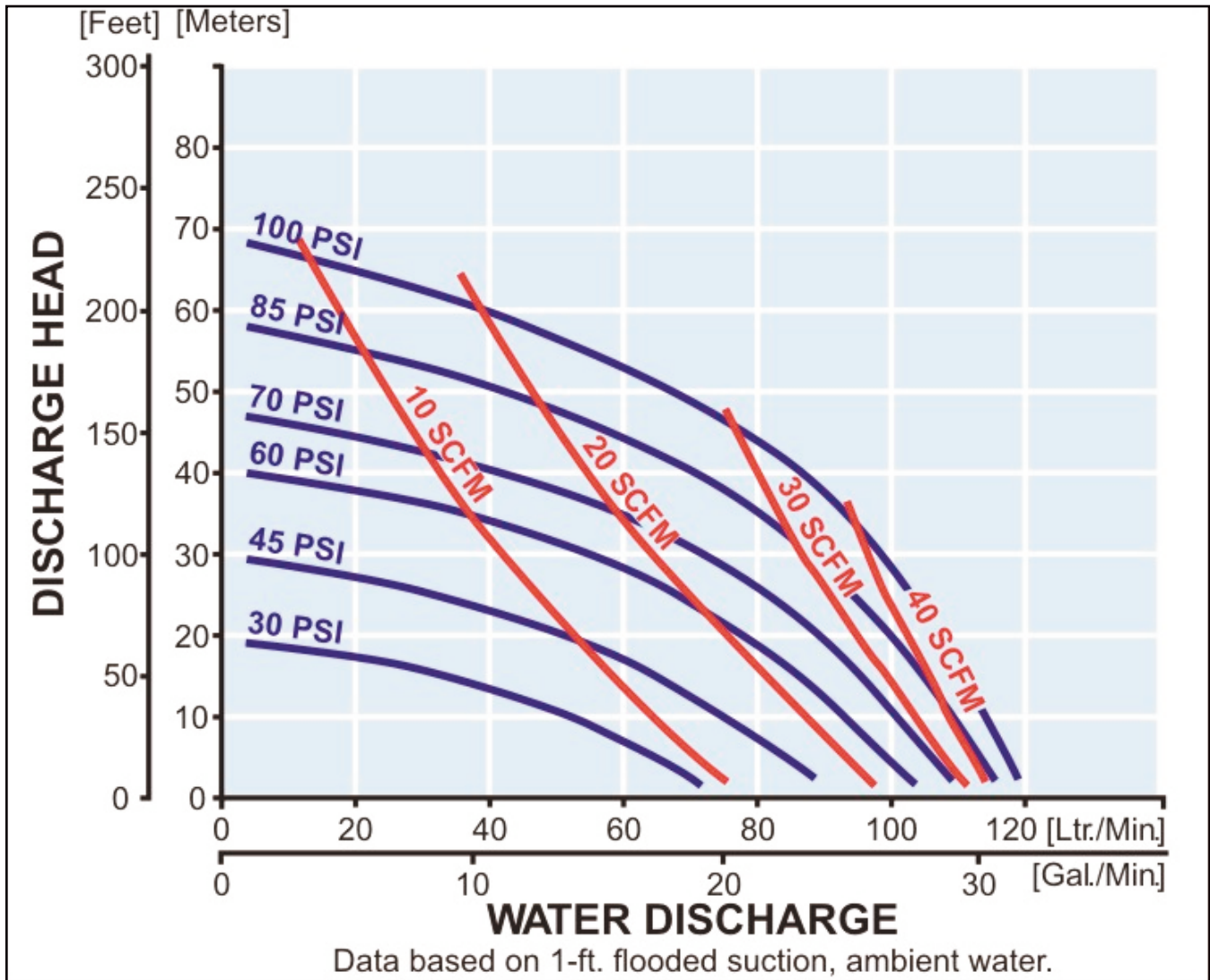
**Dimensions:** 9.80" W × 12.60" H  
**Net Wt.:** 30.8 lbs. (13.9 kg)  
**Shipping Wt.:** 32 lbs.

## Model Number Nomenclature



# NDP-20 Performance Curve – Rubber

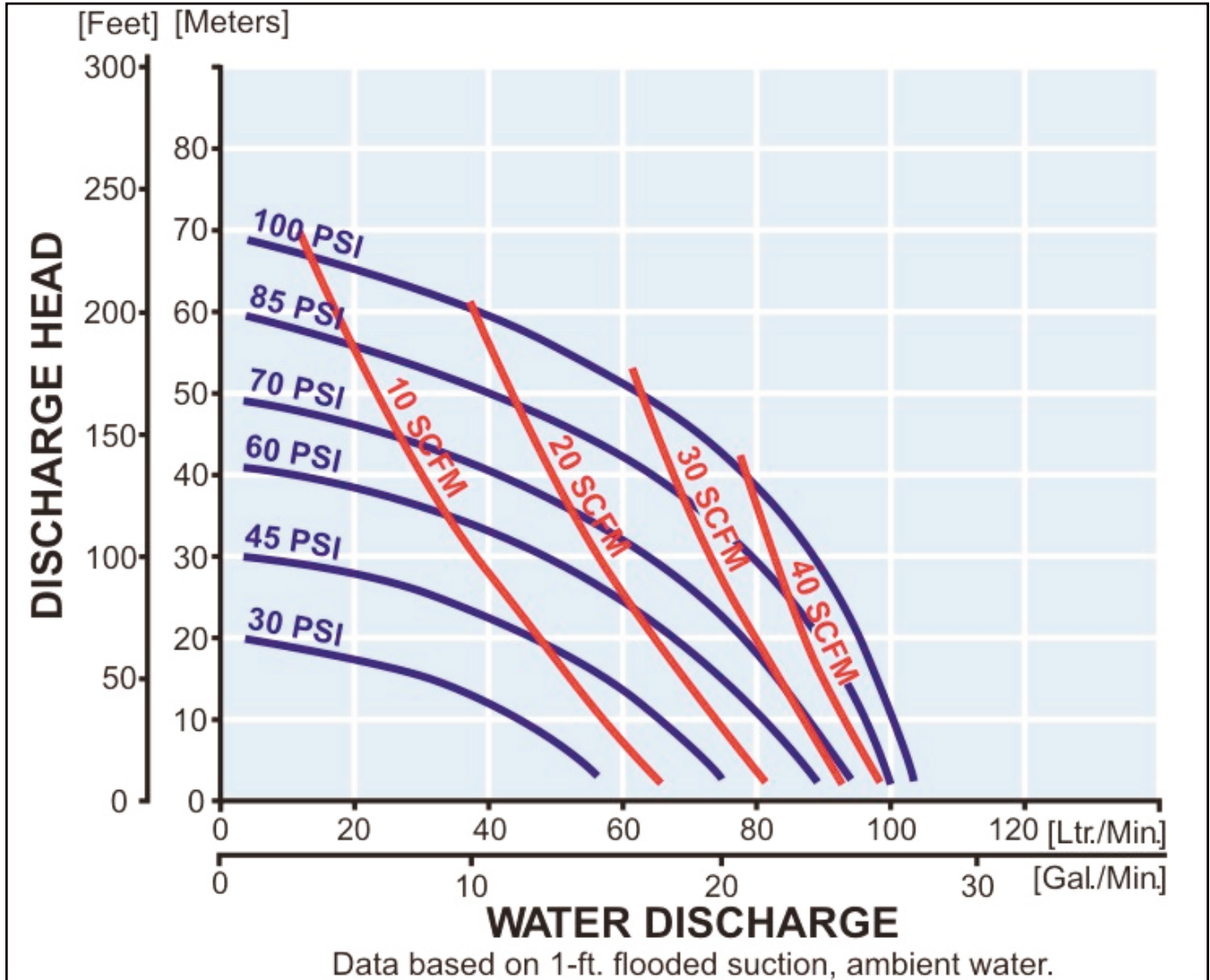
## Rubber Diaphragm Performance Curve



To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.

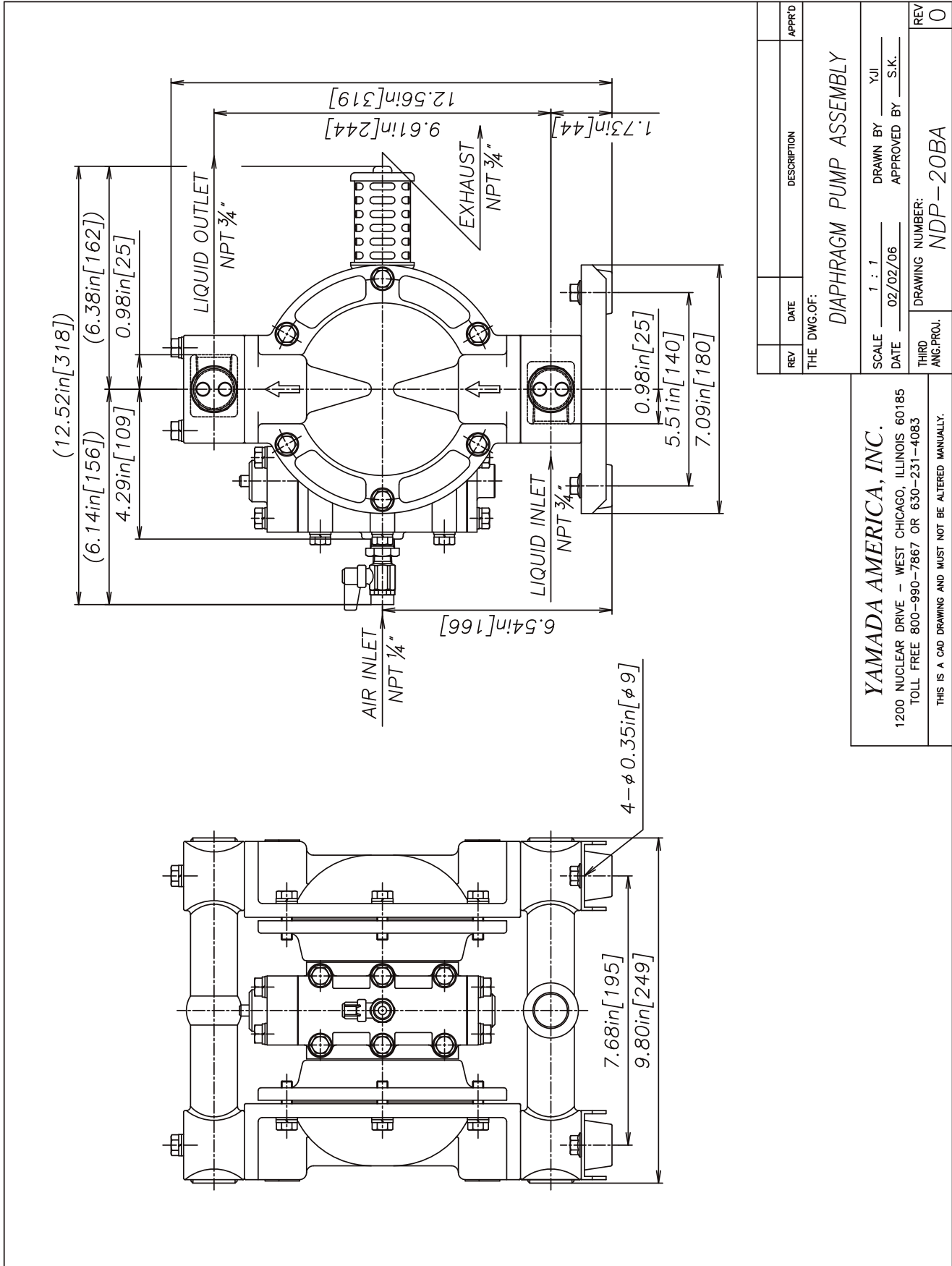
# NDP-20 Performance Curve – PTFE

## PTFE Diaphragm Performance Curve



To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.



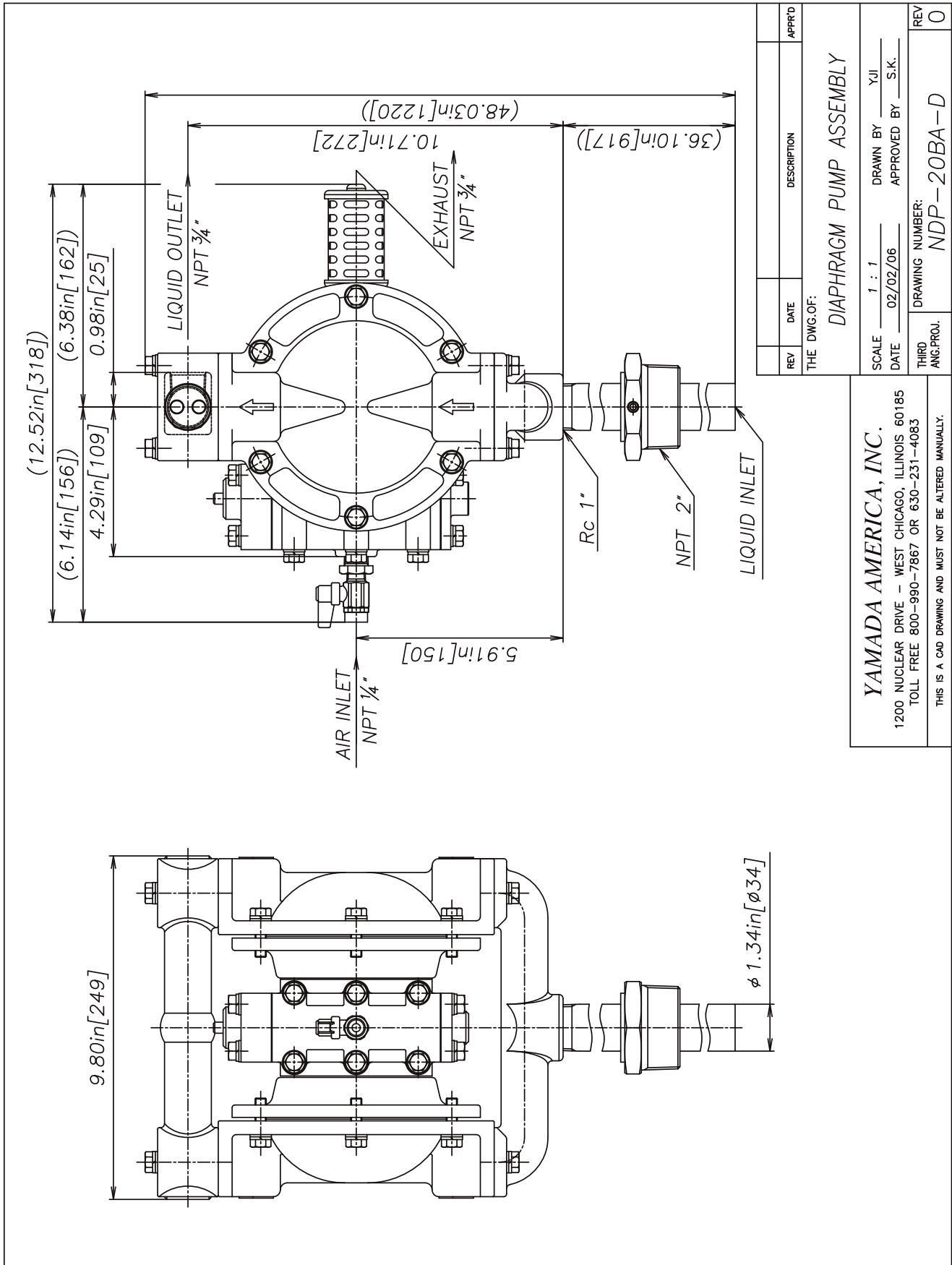


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SCALE	1 : 1	DRAWN BY	YJI
DATE	02/02/06	APPROVED BY	S.K.
THIRD ANG. PROJ.		DRAWING NUMBER:	NDP-20BA
REV			0

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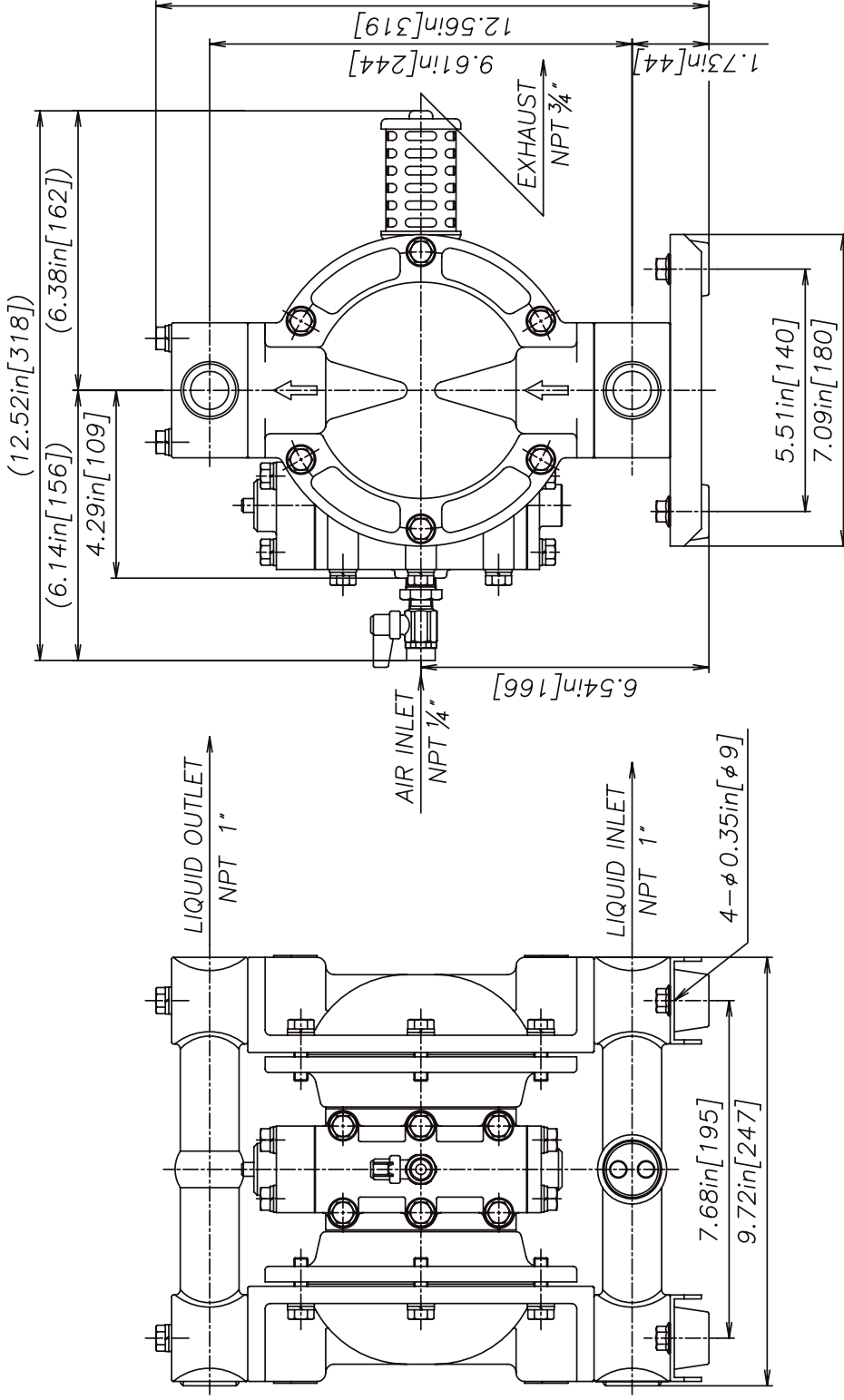


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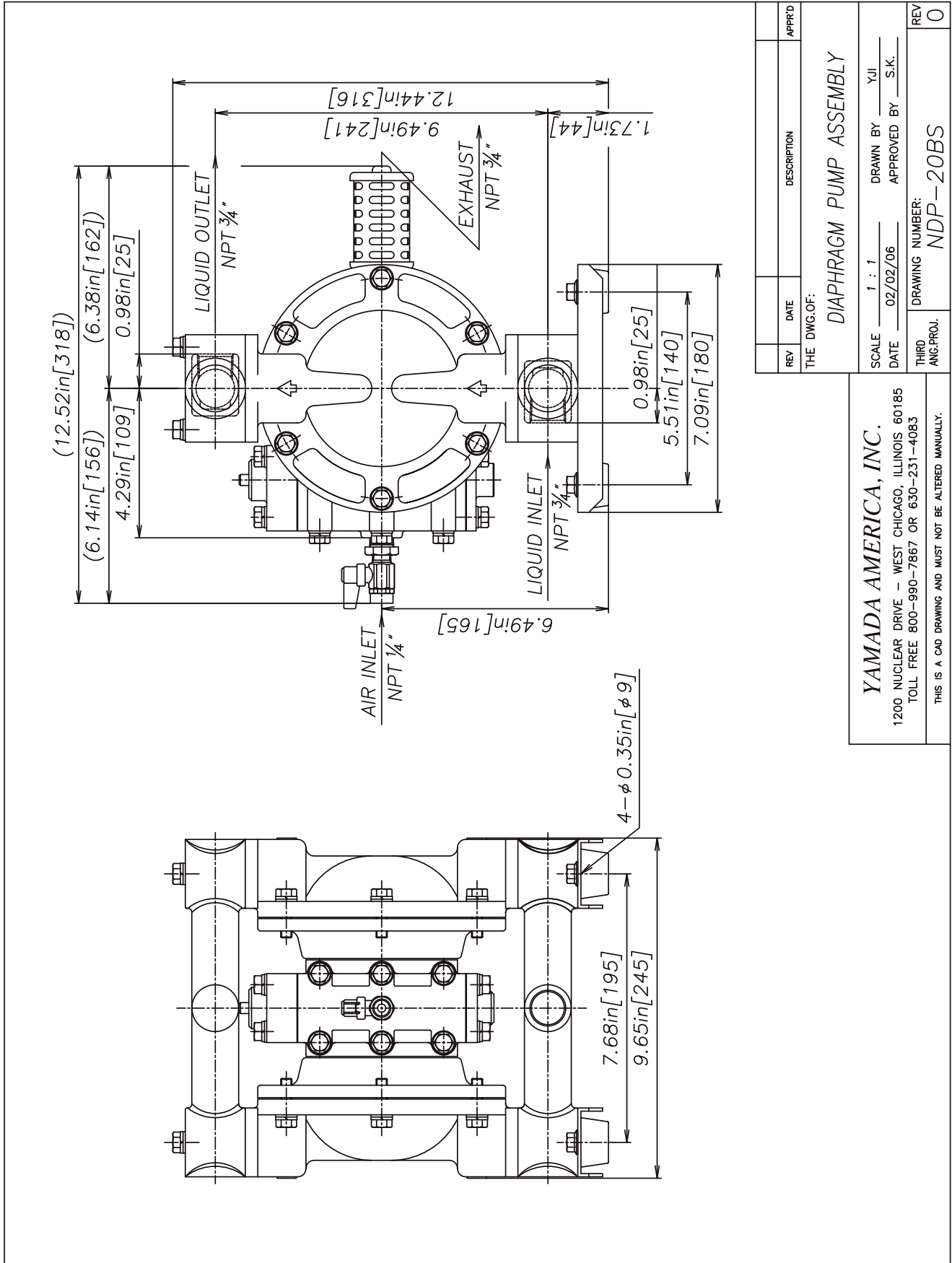
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 DATE **02/02/06** APPROVED BY **S.K.**  
 THIRD ANGLE PROJ. DRAWING NUMBER: **NDP-20BA-D** REV **0**



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DIAPHRAGM PUMP ASSEMBLY			
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THIRD ANG. PROJ.	DRAWING NUMBER:		REV
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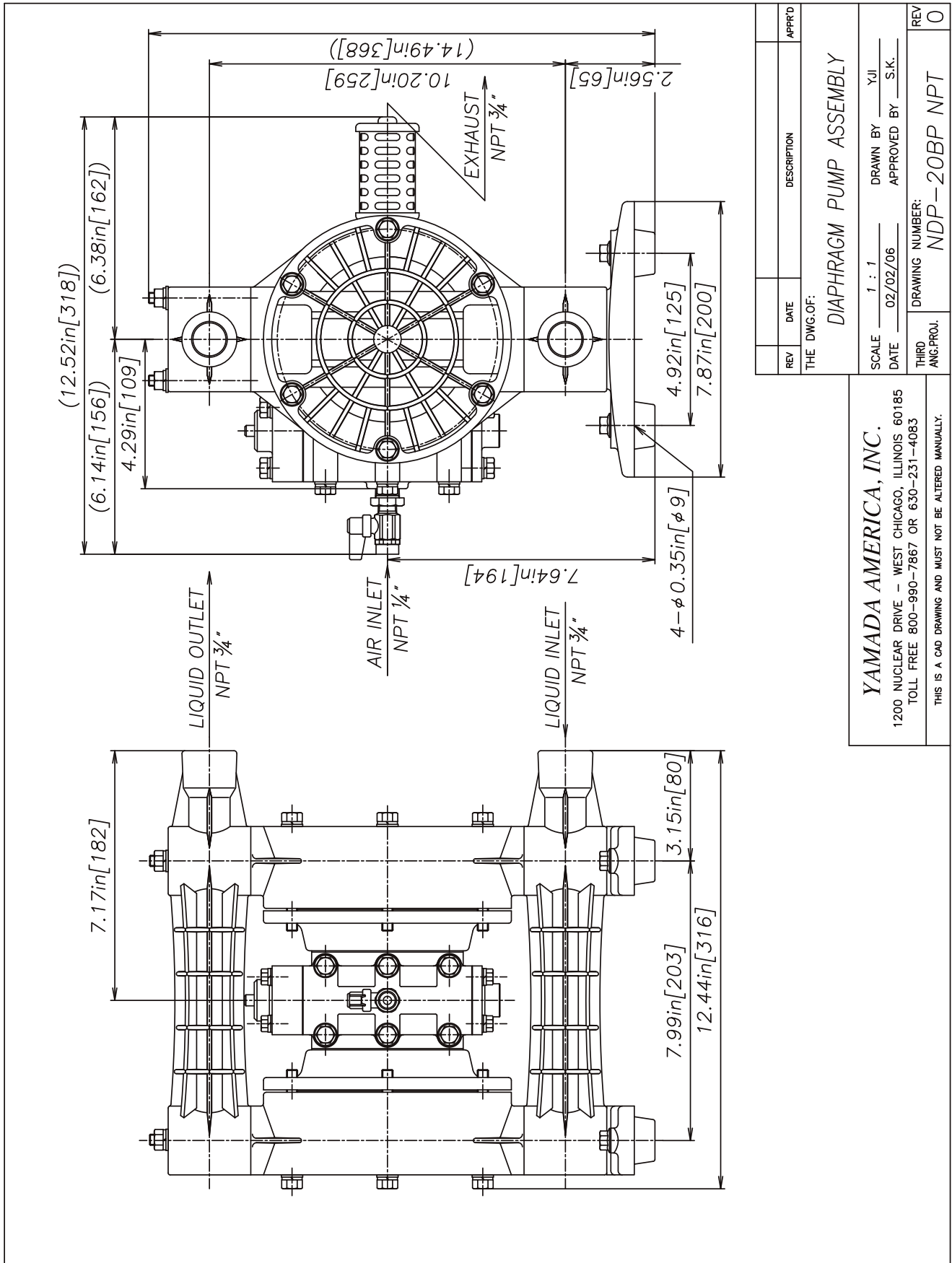
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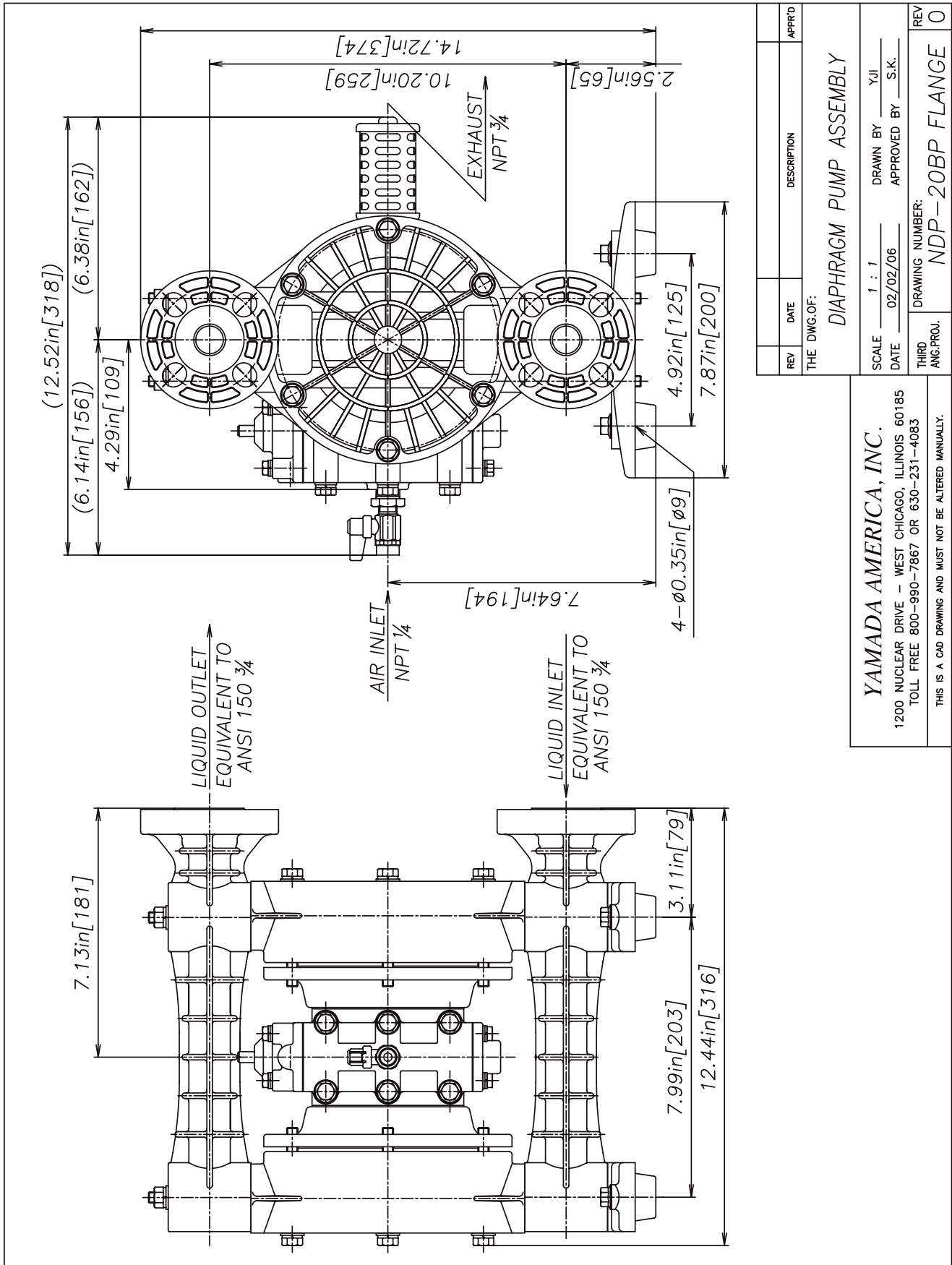
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DATE 02/02/06		APPROVED BY S.K.	
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	NDP-20BP FLANGE		0

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# NDP-25 Specifications

## Port Dimensions (46.2 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG)	1" Female NPT
Kynar® (PVDF)	1" Female NPT
Aluminum (ADC-12)	1" Female NPT
Stainless Steel (316)	1" Female NPT
Cast Iron	1" Female NPT
Air inlet (incl. ball valve):	3/8" Female NPT
Air exhaust (incl. silencer):	3/4" Female NPT

**ANSI Flange** also available — consult Yamada.

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
EPDM	212°F (100°C)
PTFE	212°F (100°C)
Hytrel® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal and Kynar®-fitted pumps is determined by the elastomer (diaphragm material). Polypropylene pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

Rubber diaphragm: 0.22 gallons (833 cc)

PTFE diaphragm: 0.21 gallons (787 cc)

## Maximum Cycles Per Minute

Rubber diaphragm: 210

PTFE diaphragm: 210

## Maximum Size Solid

3/16" (4.8 mm)

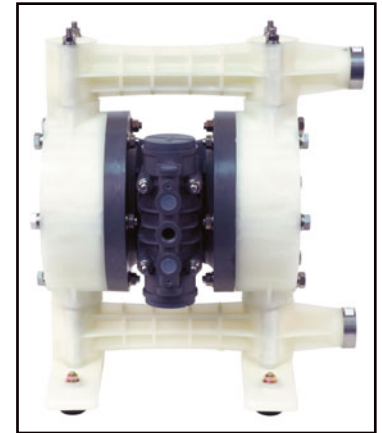
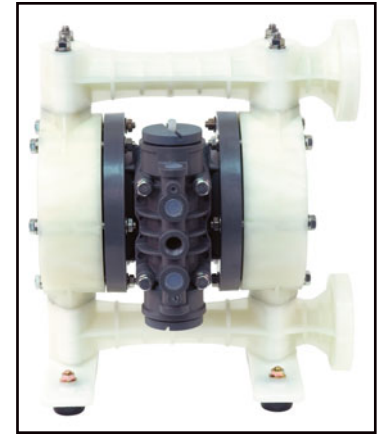
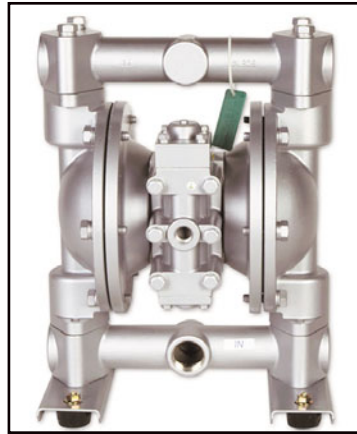
## Maximum Dry Suction Lift

Rubber-fitted pump capability: 18-feet

**Air Motors:** Aluminum air motors are standard on metal pumps; glass-filled polypropylene air motors are standard on plastic and Kynar® pumps.

**Optional:** Split manifold—contact Yamada

Notes: Santoprene® fitted pumps include EPDM wetted o-rings. Kynar® (PVDF) pumps fitted with Santoprene®, Hytrel®, or PTFE include PTFE check balls & o-rings. Kynar®/EPDM fitted pumps include EPDM check balls & o-rings. Viton® fitted pumps include Viton® balls & o-rings.



### Aluminum

**Dimensions:** 11.30" W × 15.08" H

**Net Wt.:** 27 lbs. (13.0 kg)

**Shipping Wt.:** 31 lbs.

### Kynar® (PVDF)

**ANSI Flange Dimensions:**

14.40" W × 17.40" H

**NPT Dimensions:**

14.40" W × 16.90" H

**Net Wt.:** 29.7 lbs. (13.4 kg)

**Shipping Wt.:** 33 lbs.

### Polypropylene

**ANSI Flange Dimensions:**

14.40" W × 17.40" H

**NPT Dimensions:**

14.40" W × 16.90" H

**Net Wt.:** 29 lbs. (10.9 kg)

**Shipping Wt.:** 30 lbs.

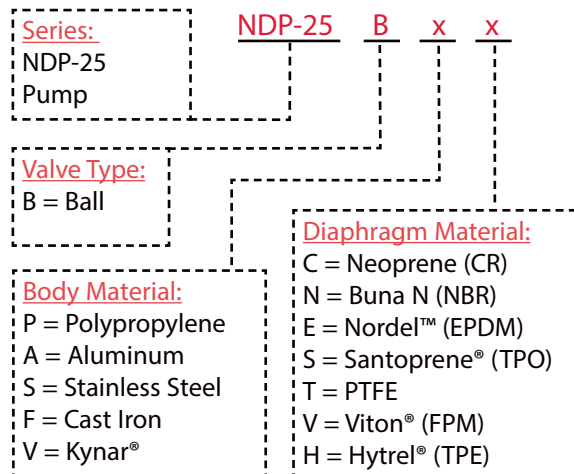
### Cast Iron or S.S.

**Dimensions:** 11.30" W × 15.08" H

**Net Wt.:** 43 lbs. (19.9 kg)

**Ship Wt.:** 46 lbs.

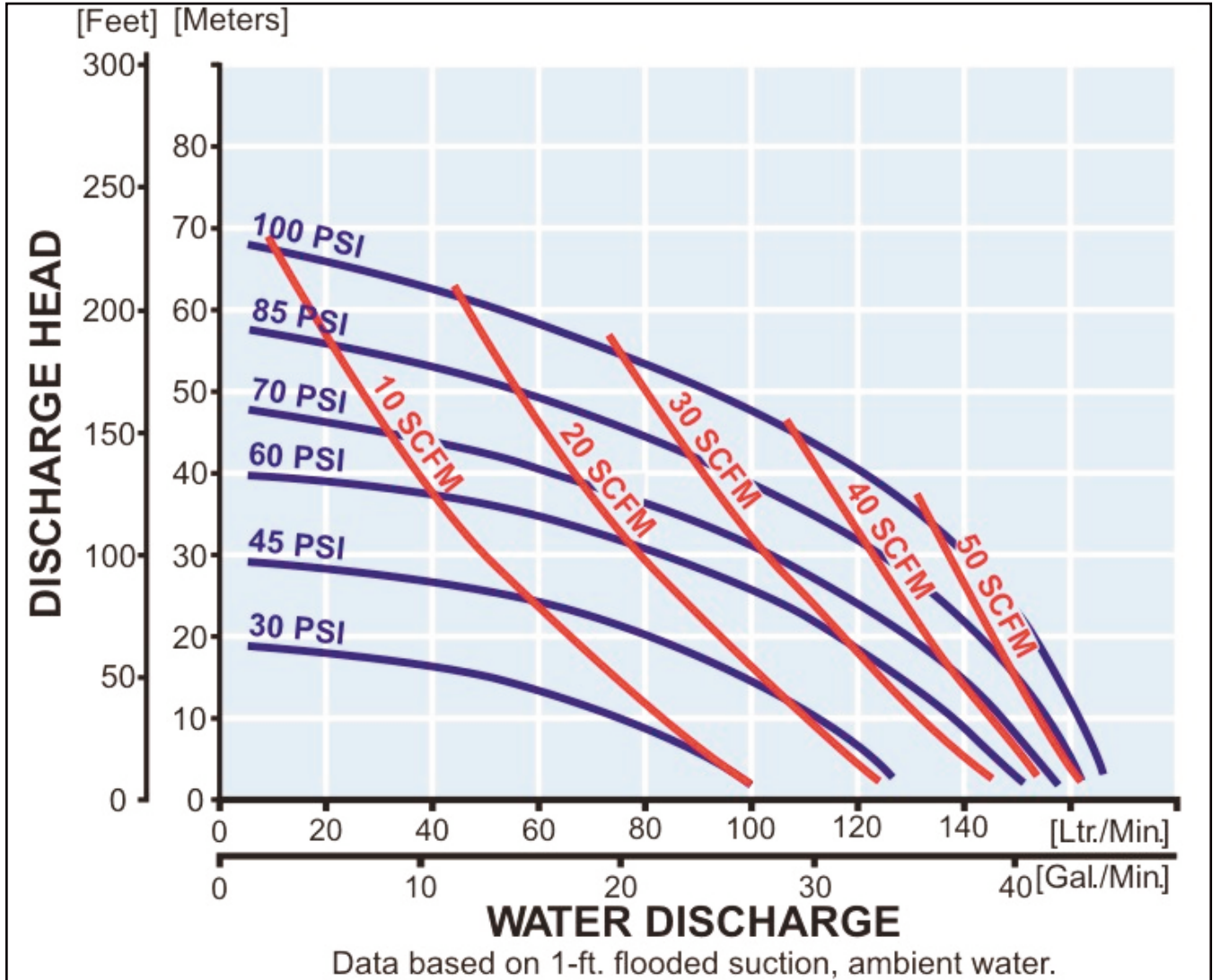
## Model Number Nomenclature





# NDP-25 Performance Curve – Rubber

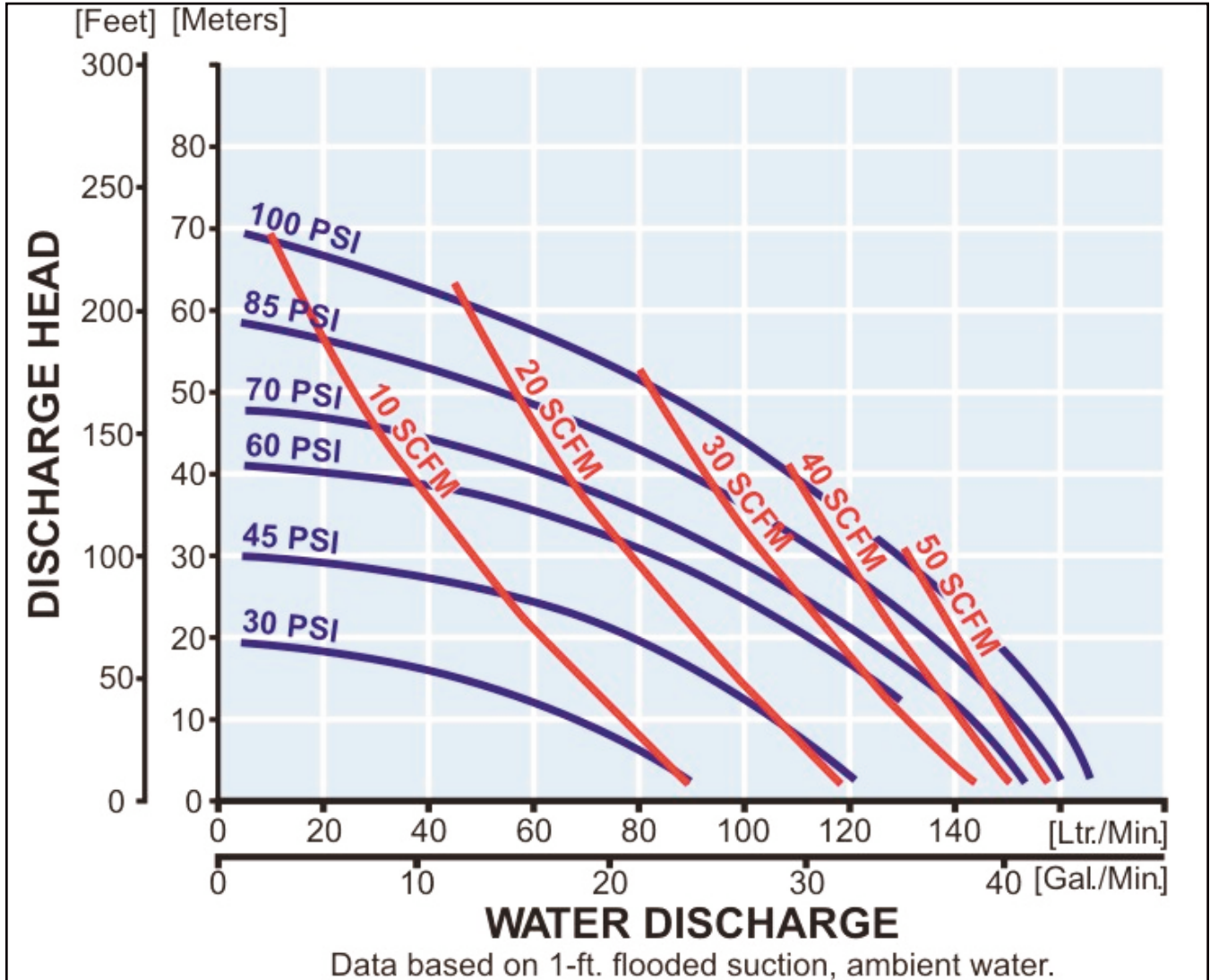
## Rubber Diaphragm Performance Curve



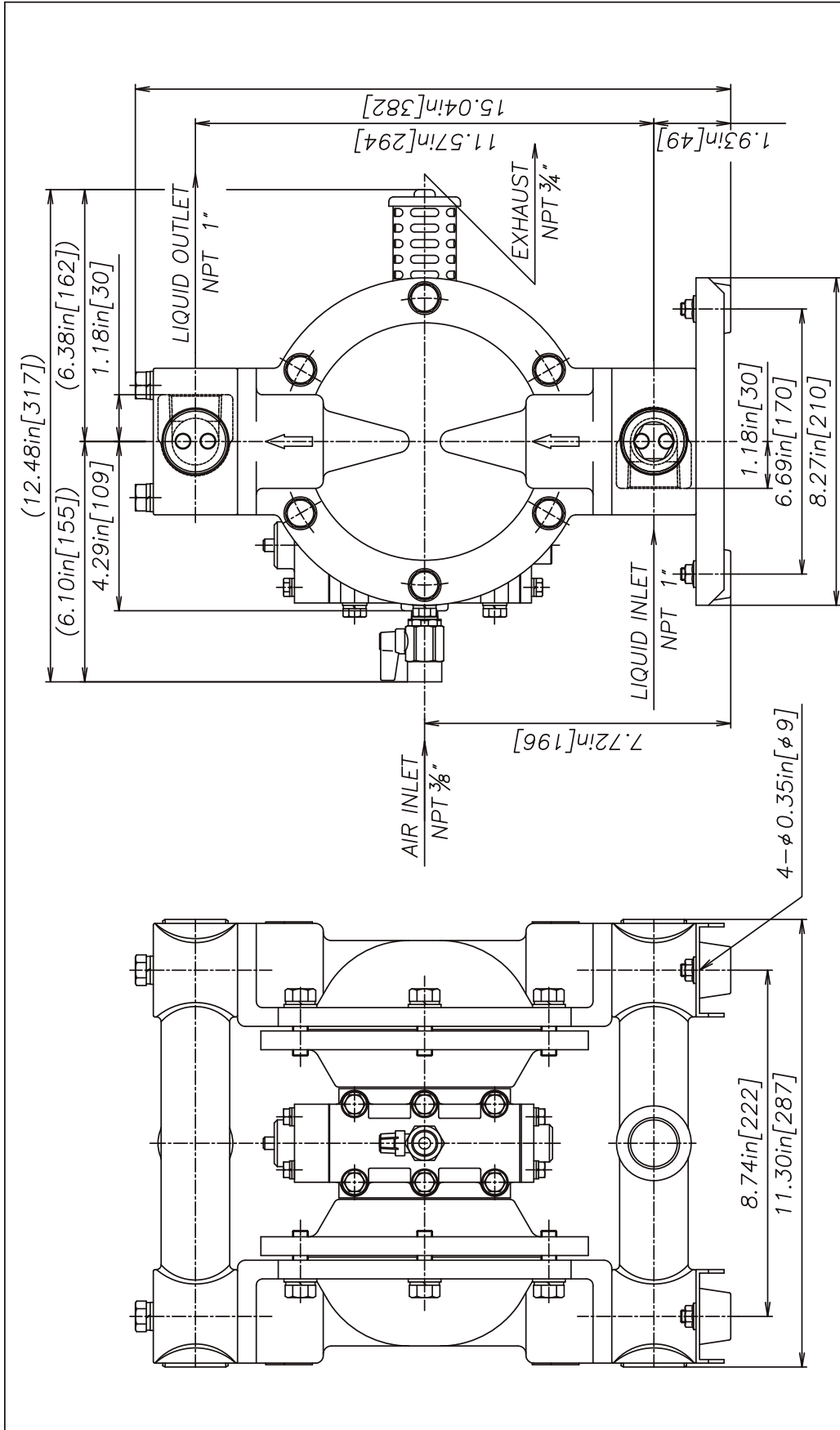
To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.

# NDP-25 Performance Curve – PTFE

## PTFE Diaphragm Performance Curve



To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.



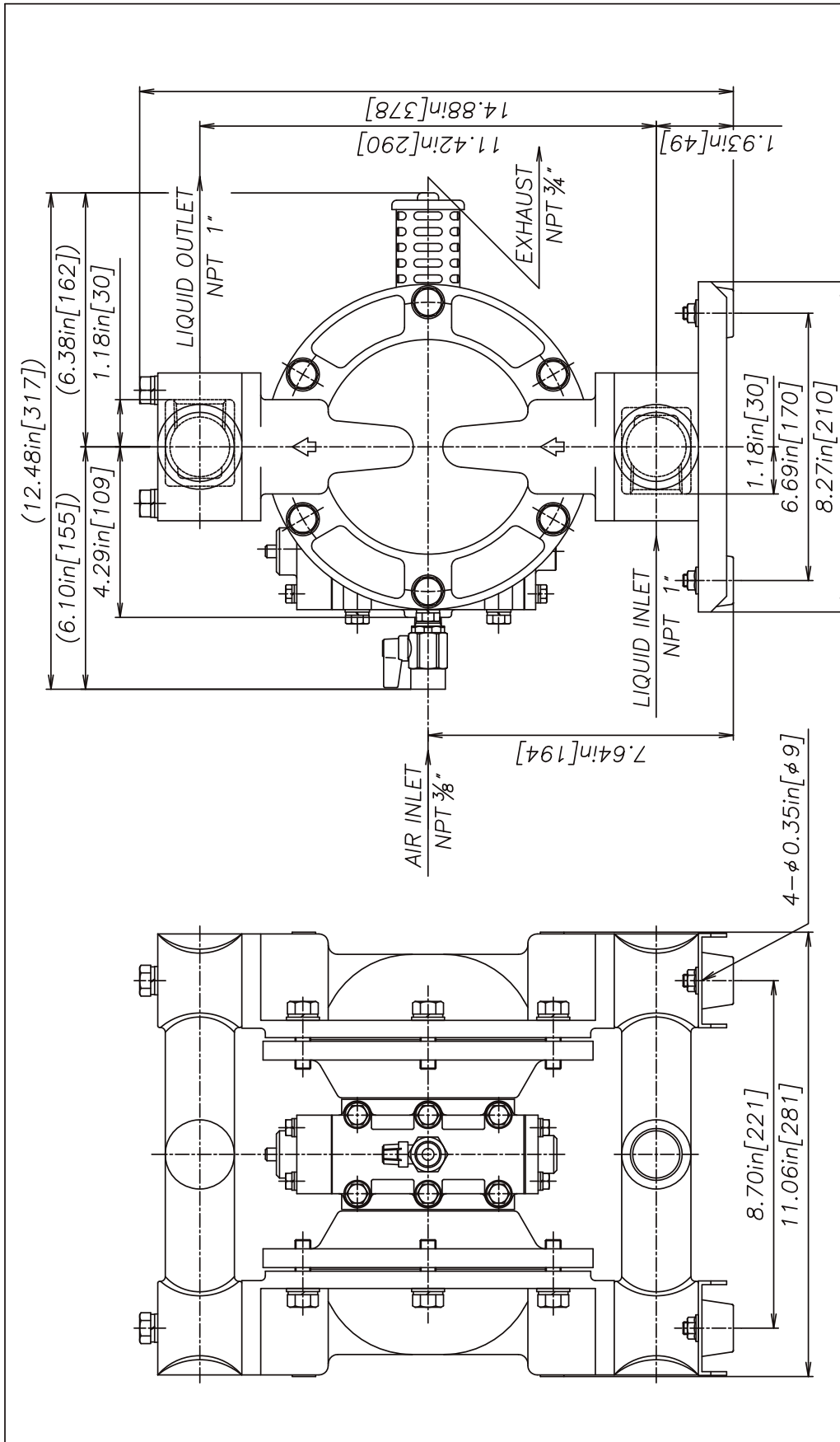
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DATE: 02/02/06      APPROVED BY: S.K.

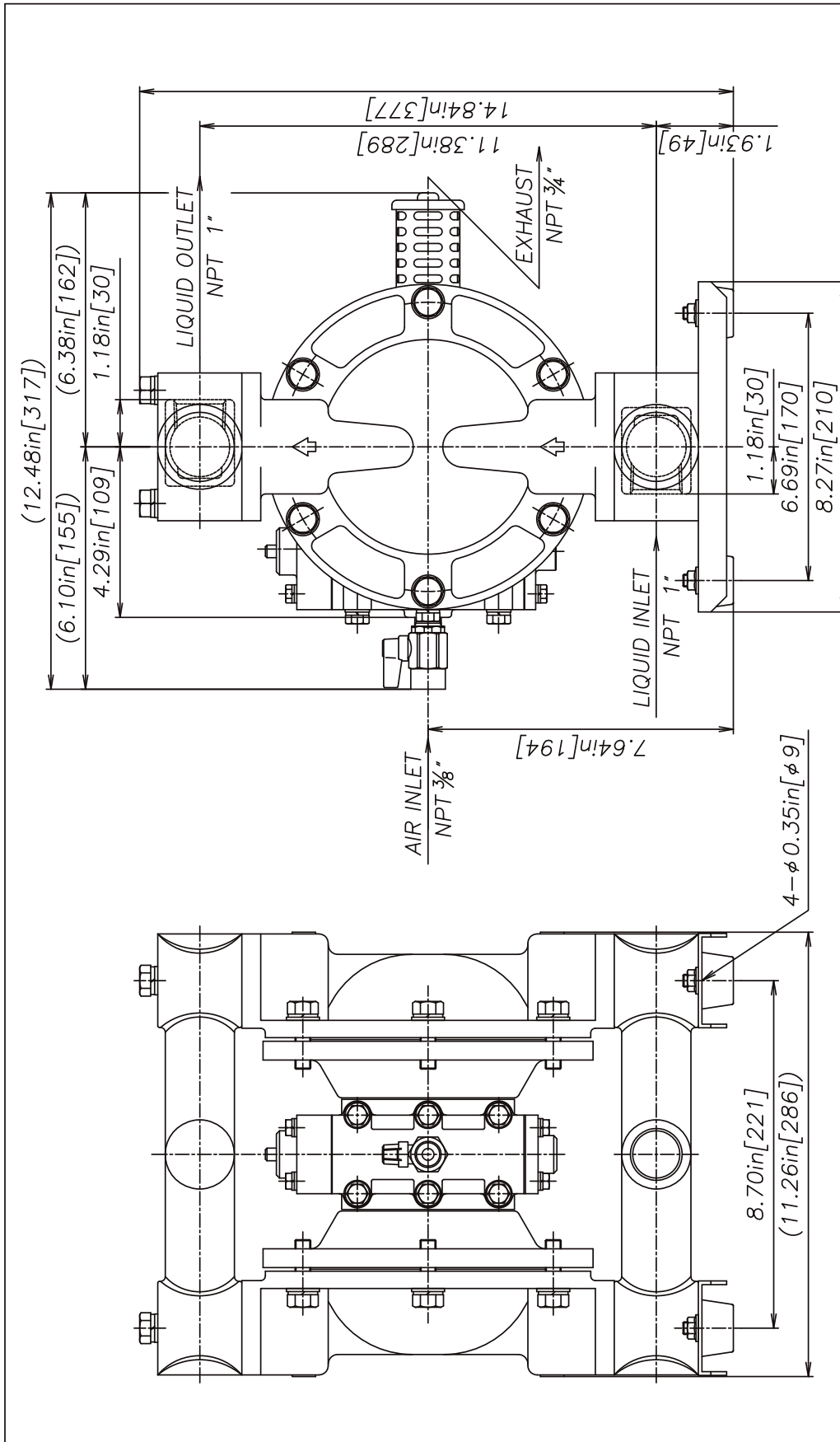
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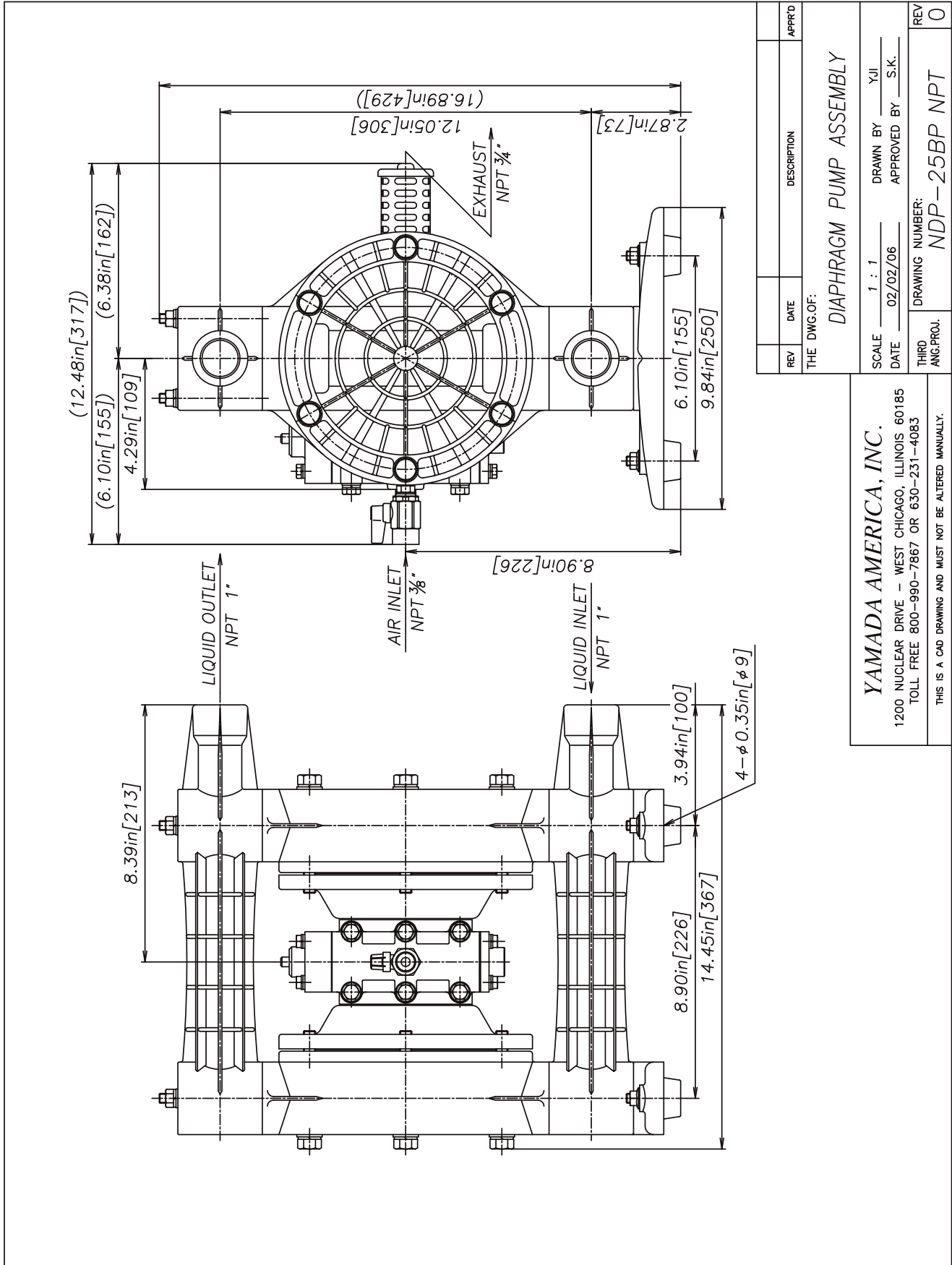
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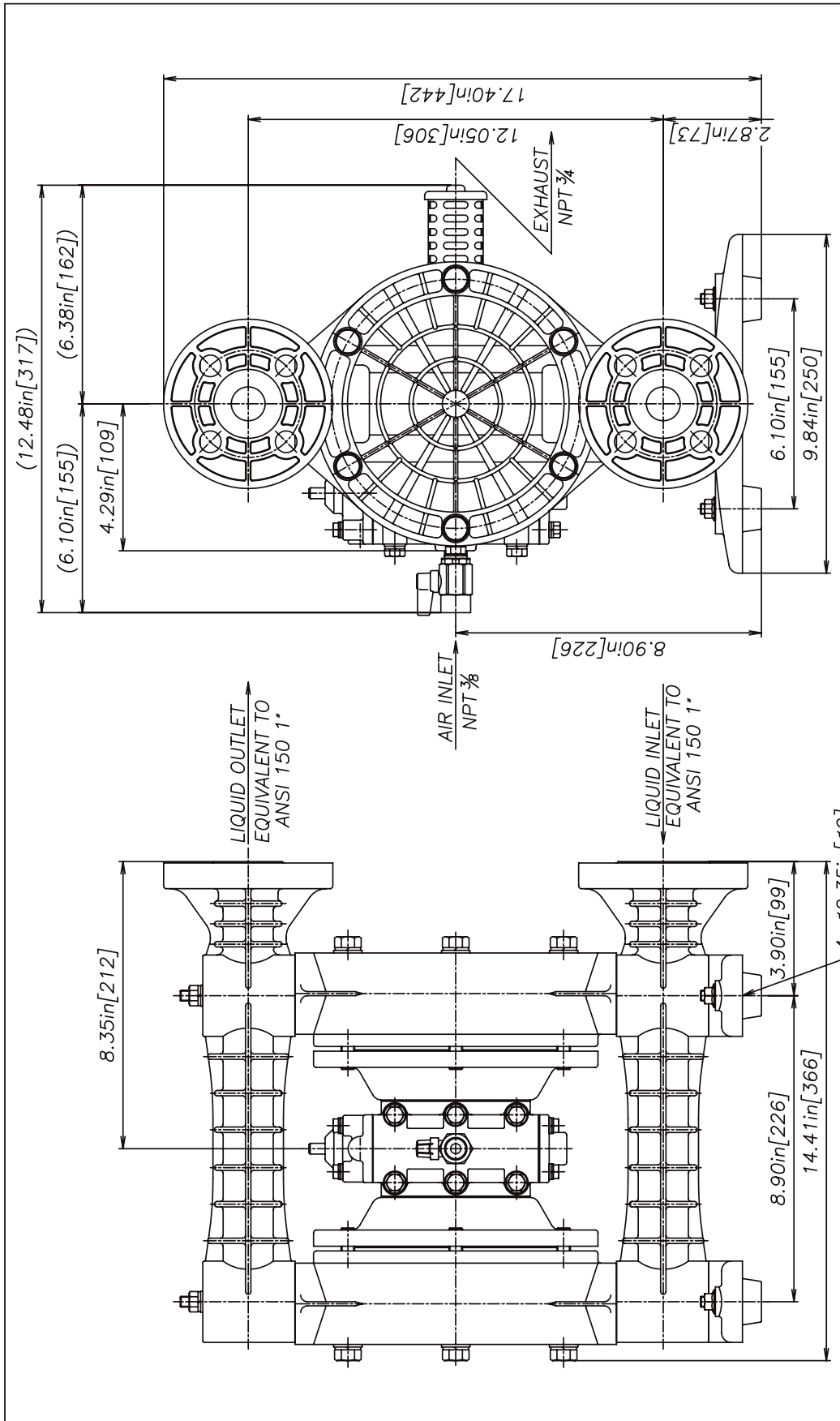
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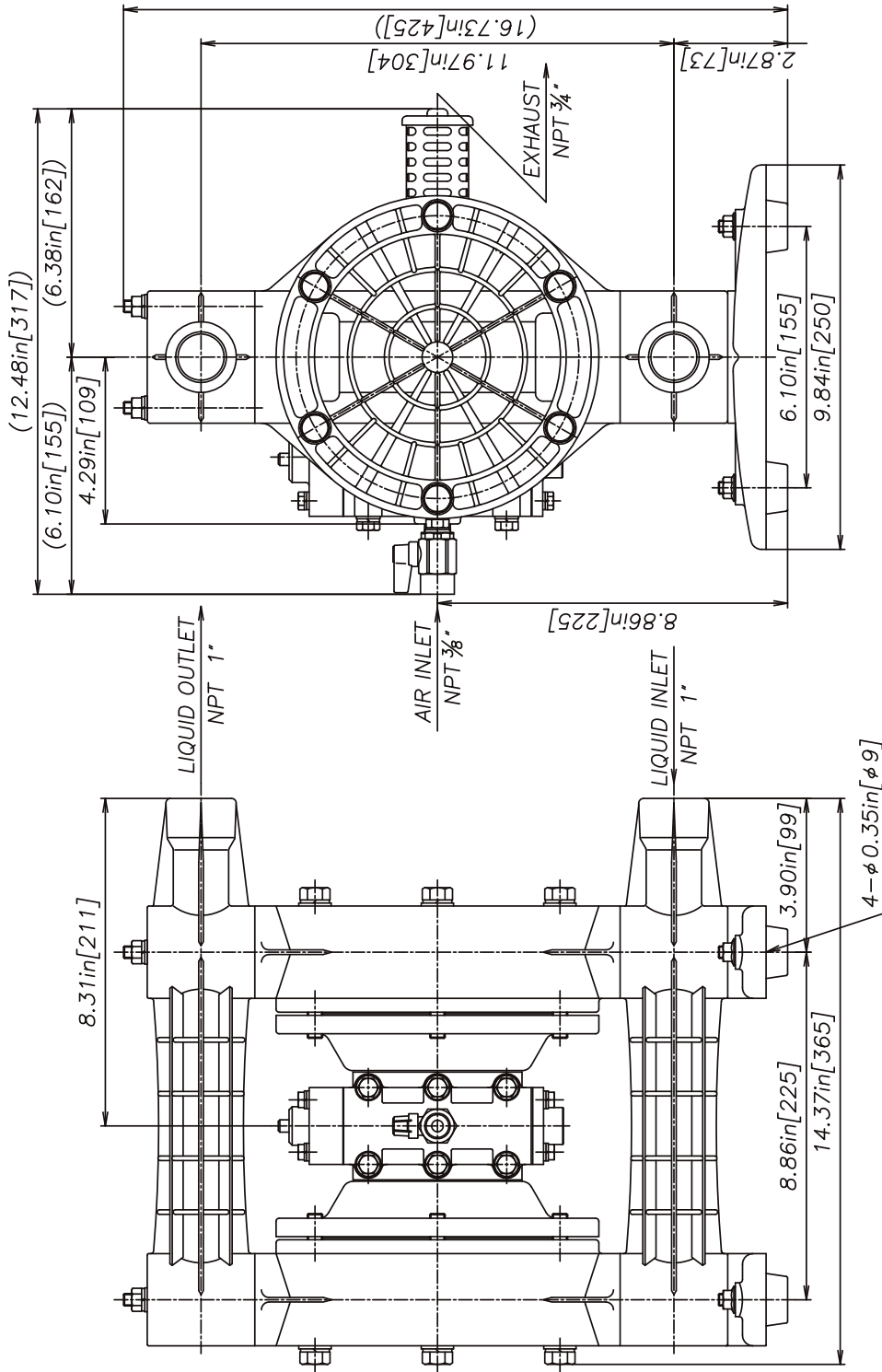
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DATE	02/02/06	APPROVED BY	S.K.
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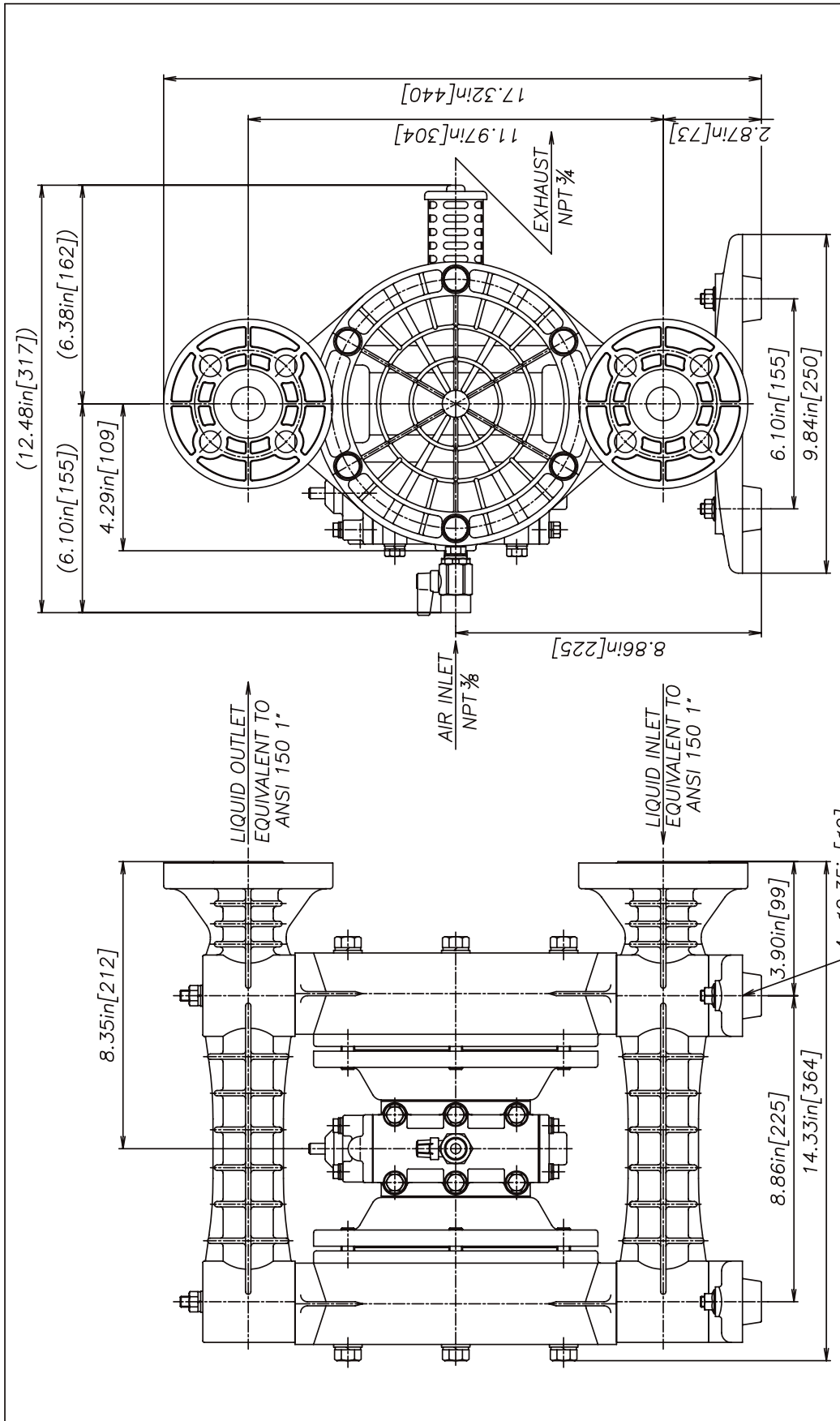
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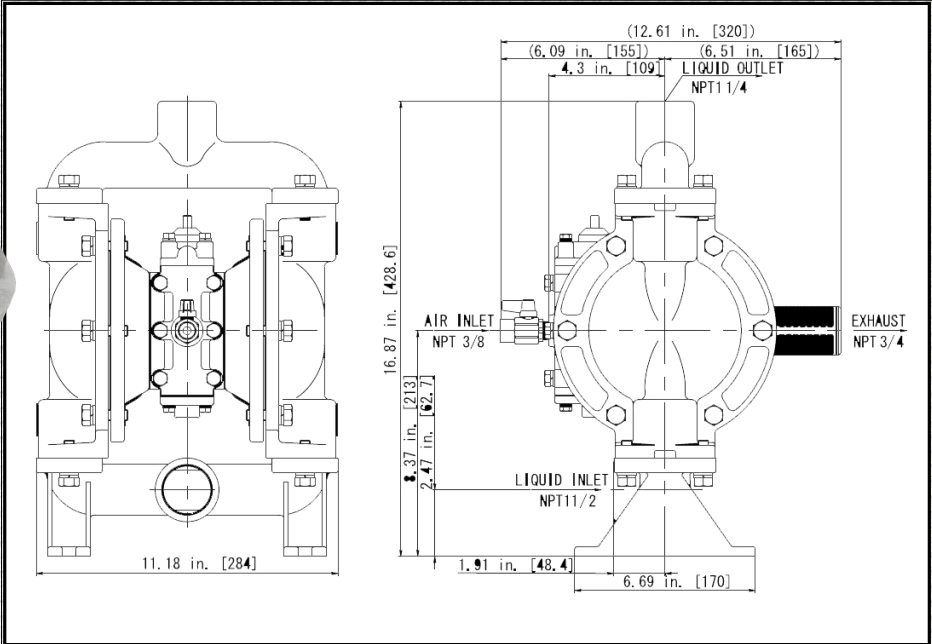
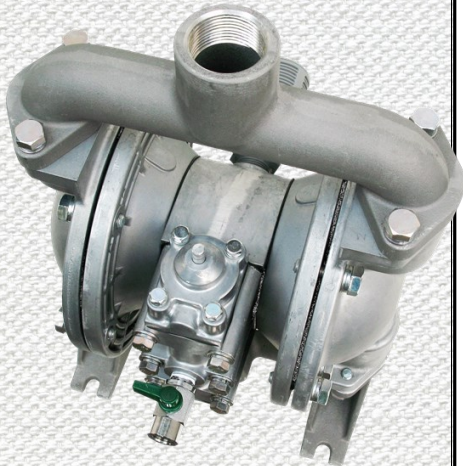
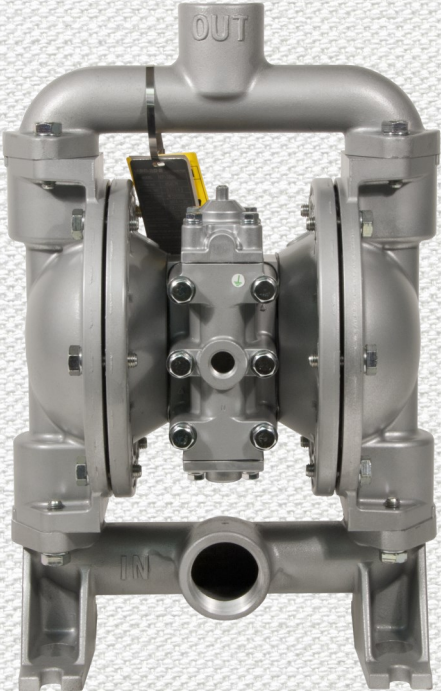
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# NDP-32 Pump

## PROBLEM SOLVED!

Have you ever wanted to switch out your old pump for a Yamada®, but faced re-piping issues? With the NEW NDP-32 Pump from Yamada, your problems are solved. This new 1-1/2" inlet x 1-1/4" outlet matches up dimensionally with old competing brand's designs. Now your conversion to Yamada is just a little bit easier.

- Available in Aluminum and any elastomer (*Buna N*, *Hytrel*®, *Viton*®, *EPDM*, *Neoprene*®, *Santoprene*® & *PTFE*)
- The same Non-Lube design air motor used in all the Yamada NDP Series Pumps
- All the usual Yamada features: bolted design, outside accessible air motor, ease of maintenance, interchangeability of parts & Yamada quality

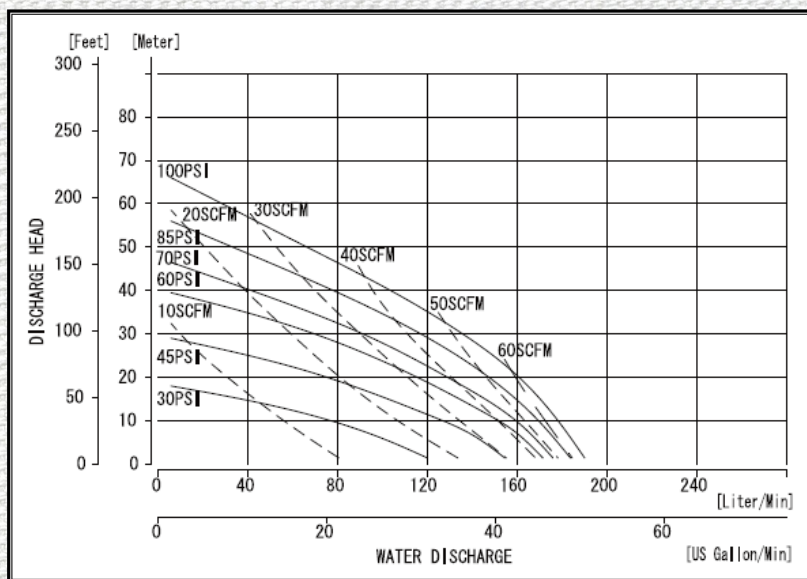
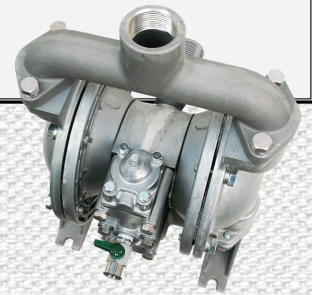


## Simplify Your Pump Replacement



**The Proof is Clear!**

- **Fluid connections:**  
Suction port: NPT 1-1/2" (F)  
Discharge port: NPT 1-1/4" (F)
- **Air connections:**  
Supply port: NPT 3/8"  
Exhaust port: NPT 3/4"
- **Operating air pressure:**  
30 - 100 PSI
- **Maximum discharge pressure:**  
100 PSI
- **Discharge volume/cycle:**  
0.18 gallons
- **Maximum discharge volume:**  
50.2 gallons/min
- **Maximum air consumption:**  
70.6 SCFM
- **Particle size:**  
3 mm or less
- **Operating fluid temperature range:**  
-40 - 248°F
- **A-weighted emission sound pressure level (ISO 1996):**  
81 dB
- **Weight:**  
26.5 lbs.



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Label:



# NDP-40 Specifications

## Port Dimensions (107 GPM Max.)

### Intake & discharge connection:

Polypropylene (PPG)	1-1/2" ANSI B16.5 #150
Kynar® (PVDF)	1-1/2" ANSI B16.5 #150
Aluminum (ADC-12)	1-1/2" ANSI B16.5 #150 (with tapped 1-1/2" Female NPT)
Stainless Steel (316)	1-1/2" ANSI B16.5 #150 or 1-1/2" Female NPT
Cast Iron	1-1/2" Female NPT
Air inlet (incl. ball valve):	1/2" Female NPT
Air exhaust (incl. silencer):	1" Female NPT

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
EPDM	212°F (100°C)
PTFE	212°F (100°C)
Hytrel® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal and Kynar®-fitted pumps is determined by the elastomer (diaphragm material). Polypropylene pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

Rubber diaphragm: 0.73 gallons (2.74 liters)  
PTFE diaphragm: 0.37 gallons (1.40 liters)

## Maximum Cycles Per Minute

Rubber diaphragm: 148  
PTFE diaphragm: 270

## Maximum Size Solid

9/32" (7 mm)

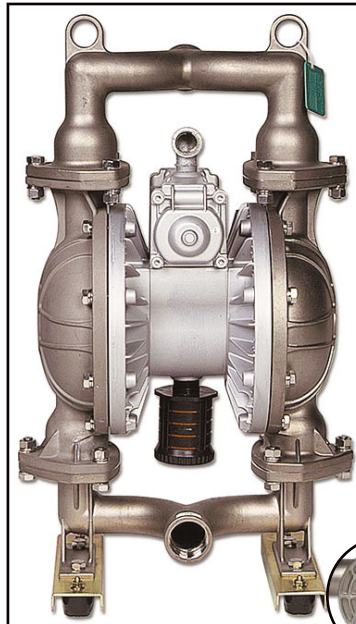
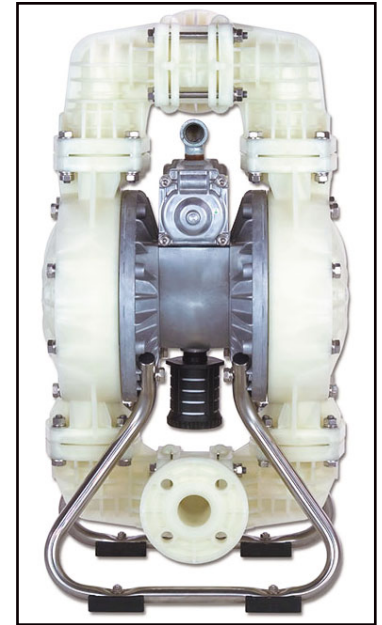
## Maximum Dry Suction Lift

Rubber-fitted pump capability: 18-feet

## Air Motor

Aluminum Air Motor–Standard  
Optional coating: PTFE grey coated (XP)

Notes: Hytrel® fitted pumps include Buna N wetted o-rings. Santoprene® fitted pumps include EPDM wetted o-rings. Kynar® (PVDF) pumps fitted with Santoprene®, Hytrel®, or PTFE include PTFE check balls and o-rings.



## Aluminum (top left)

**Dimensions:** 16.18" W × 27.91" H  
**Net Wt.:** 68 lbs. (28.9 kg)  
**Shipping Wt.:** 75 lbs.

## Polypropylene or Kynar® (top right)

**Dimensions:** 15.75" W × 29.61" H  
**Net Wt.:** 70 lbs. (29.9 kg)  
**Shipping Wt.:** 78 lbs.

## Cast Iron or Stainless Steel (left)

**Dimensions:** 16.18" W × 27.75" H  
**Net Wt.:** C. Iron: 112 lbs. (59.8 kg)  
SS: 98 lbs. (39.9 kg)  
**Ship Wt.:** C. Iron: 120 lbs.  
SS: 106 lbs.

Note: ANSI Flange available for Stainless Steel

## Model Number Nomenclature

Series: NDP-40 B x x  
NDP-40 Pump

Valve Type:  
B = Ball

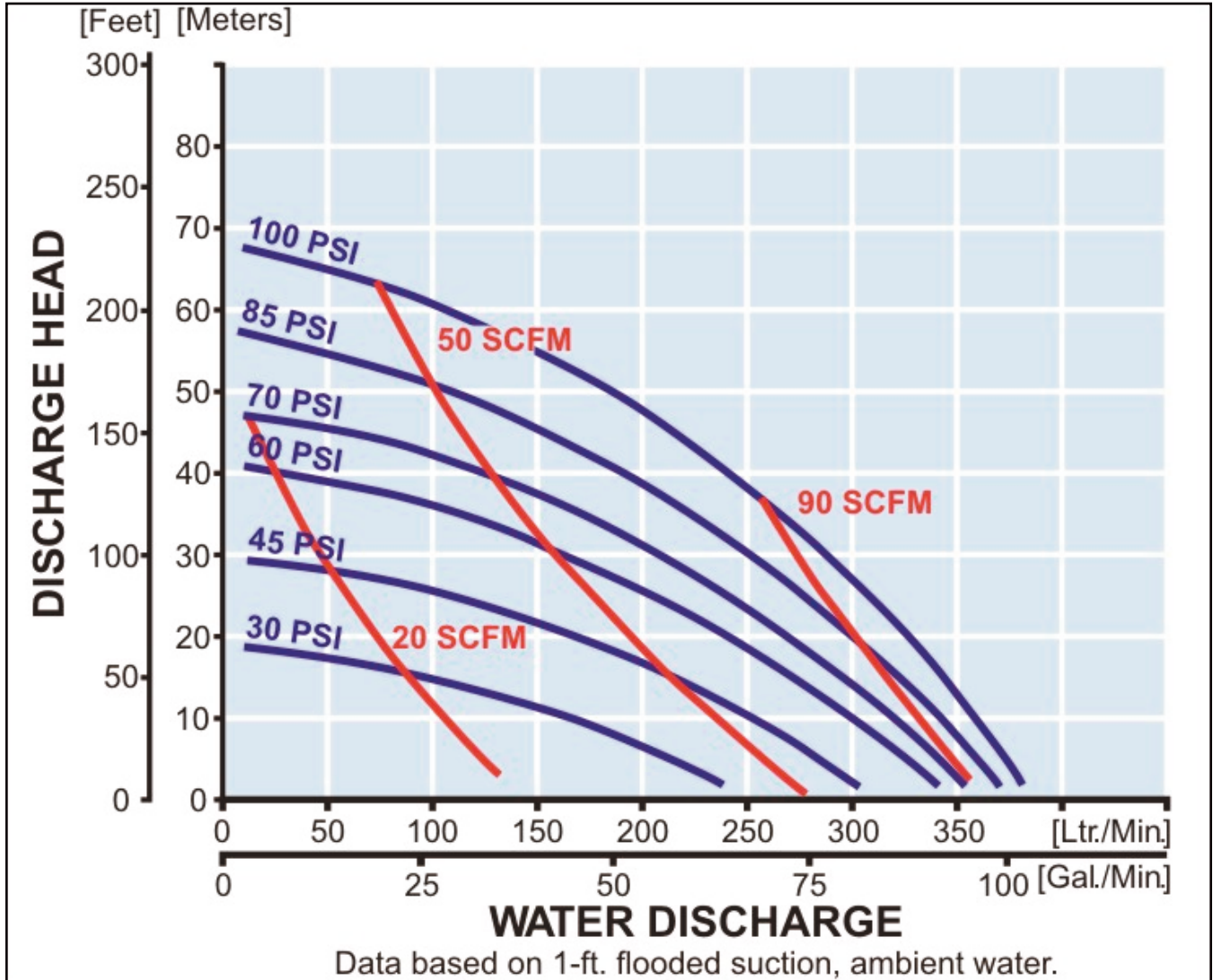
Body Material:  
P = Polypropylene  
V = Kynar®  
A = Aluminum  
S = Stainless Steel  
F = Cast Iron

Diaphragm Material:  
C = Neoprene (CR)  
N = Buna N (NBR)  
E = Nordel™ (EPDM)  
S = Santoprene® (TPO)  
T = PTFE  
V = Viton® (FKM)  
H = Hytrel® (TPE)

Note: For NPT-fitted Stainless Steel, add "NPT" at end of model number nomenclature.

# NDP-40 Performance Curve – Rubber

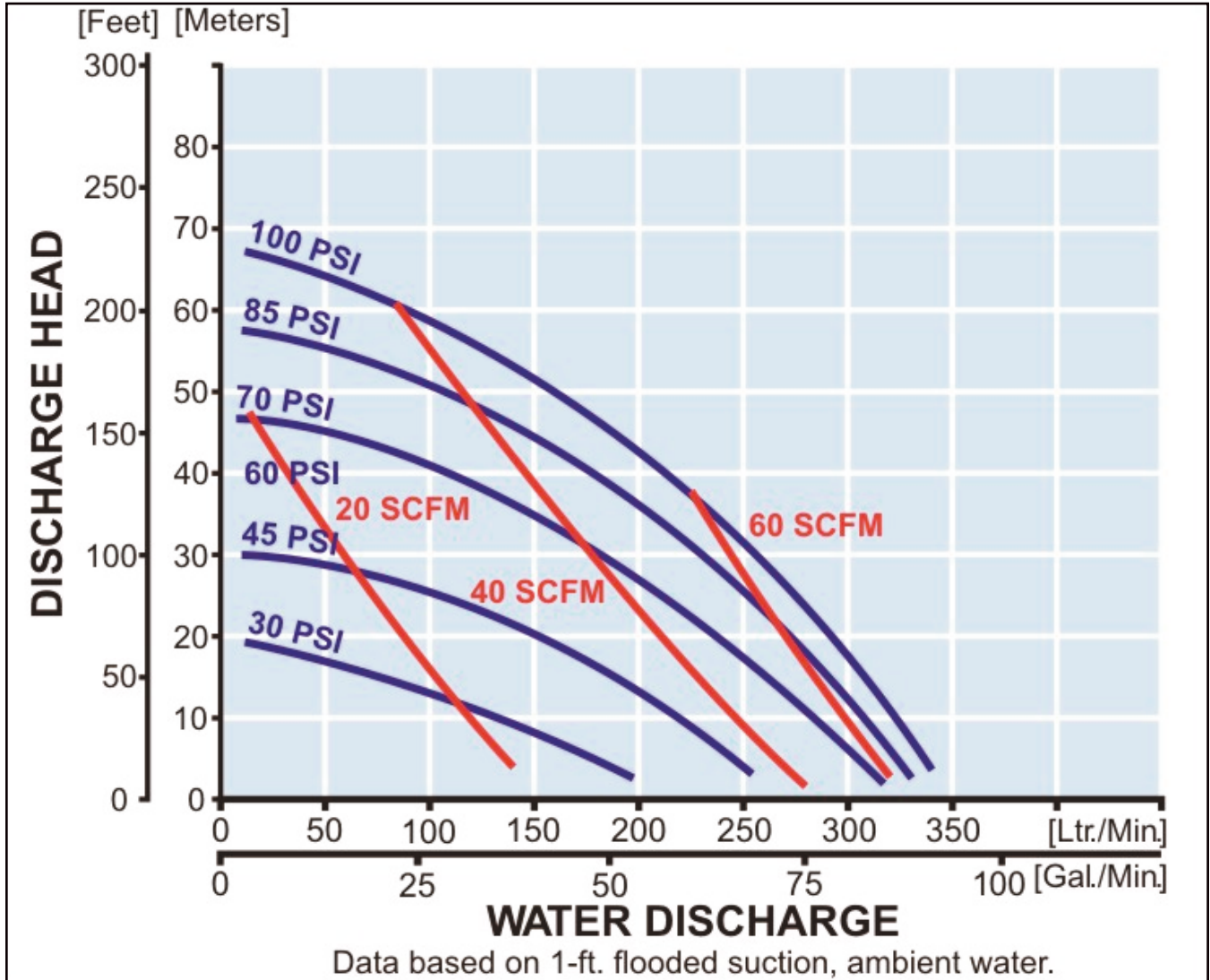
## Rubber Diaphragm Performance Curve



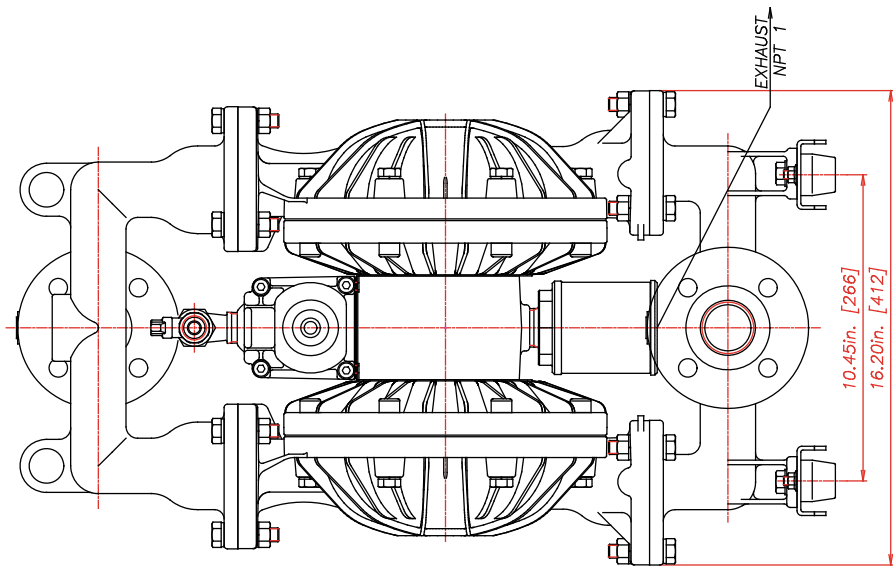
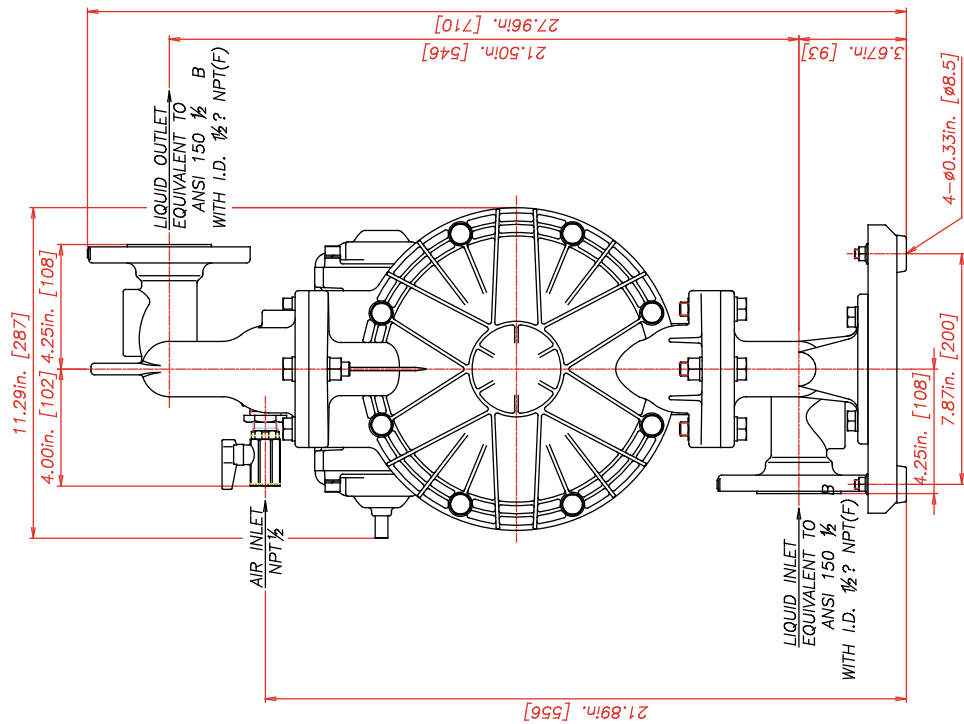
To calculate performance for Santoprene and Hytrel-fitted pumps, use Rubber Diaphragm Curve.

# NDP-40 Performance Curve – PTFE

## PTFE Diaphragm Performance Curve



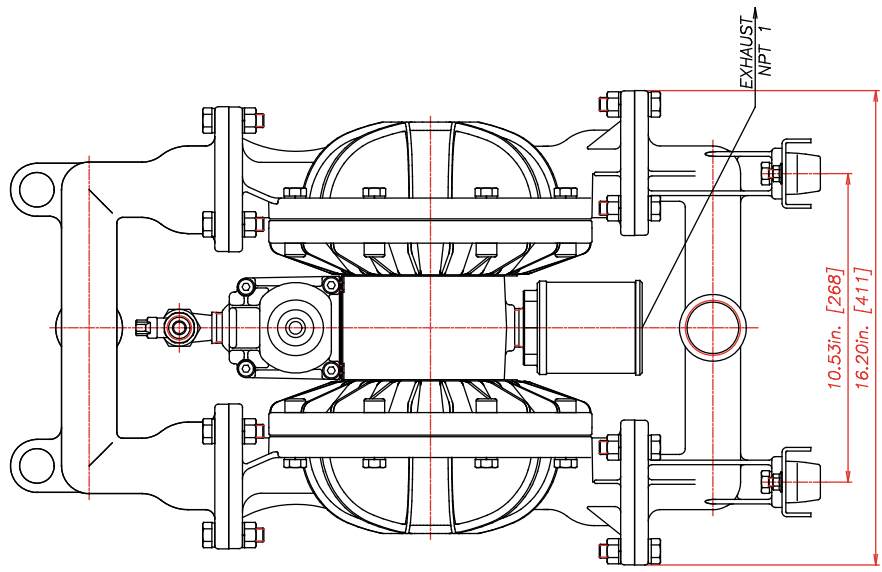
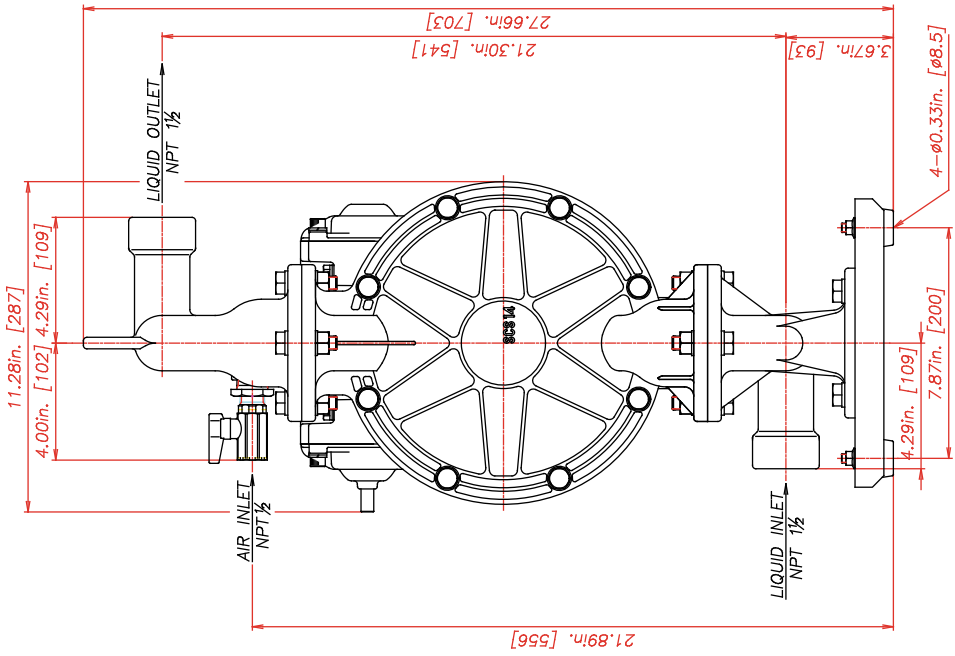
To calculate performance for Santoprene and Hytrel-fitted pumps, use Rubber Diaphragm Curve.



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<b>DIAPHRAGM PUMP ASSEMBLY</b>			
SCALE 1 : 1		DRAWN BY YJI	
DATE 01/09/12		APPROVED BY S.K.	
THIRD ANGRPLJ.	DRAWING NUMBER: NDP-40BA		REV 1

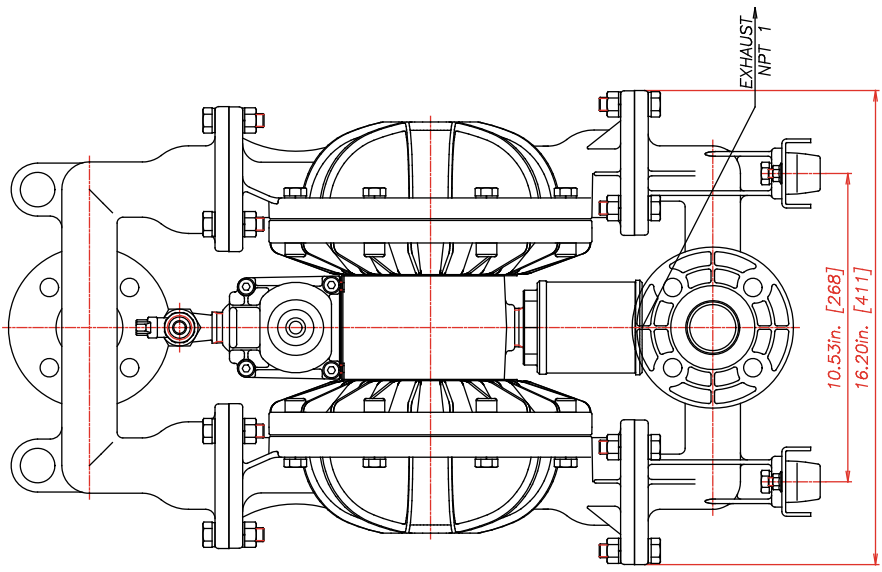
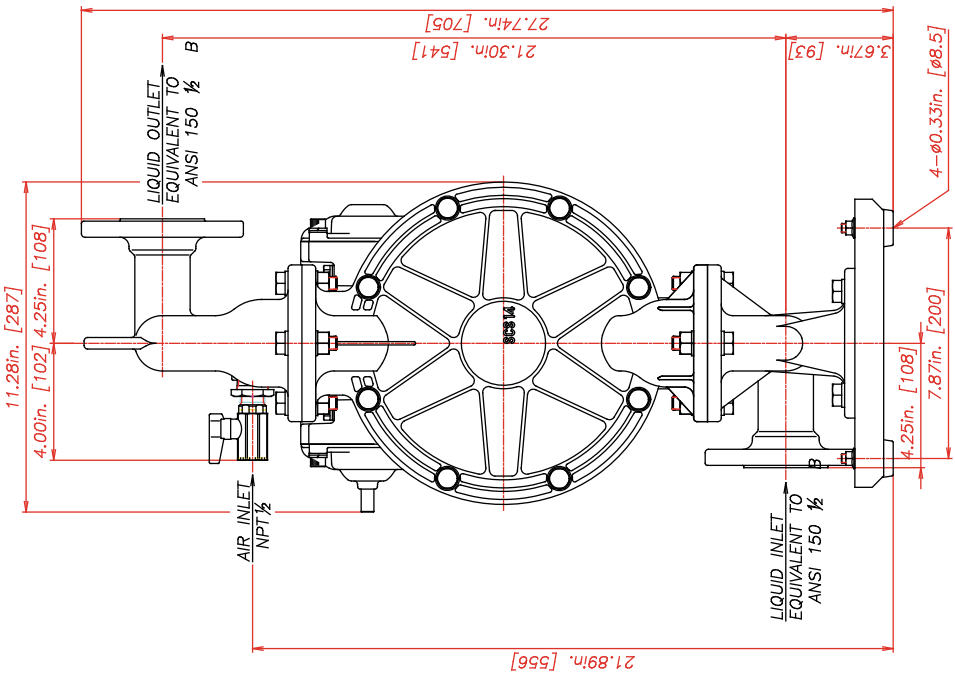
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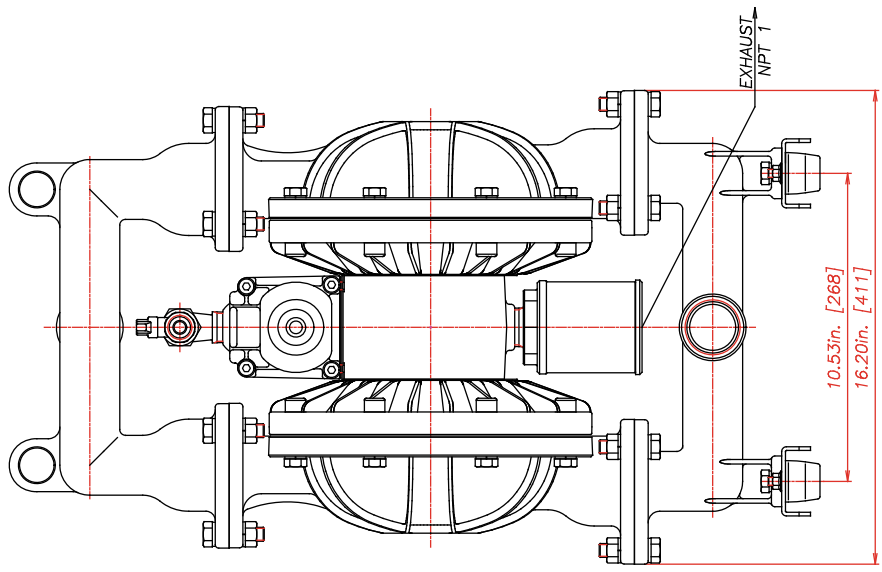
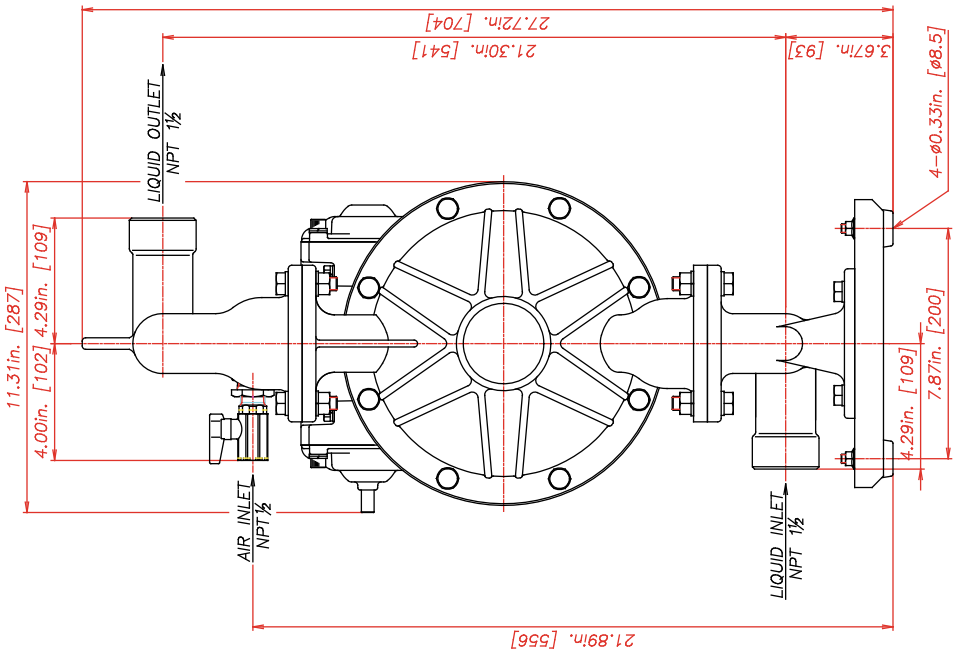
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DATE 01/09/12		APPROVED BY S.K.	
THIRD ANGRPLJ	DRAWING NUMBER: NDP-40BS NPT		REV 1

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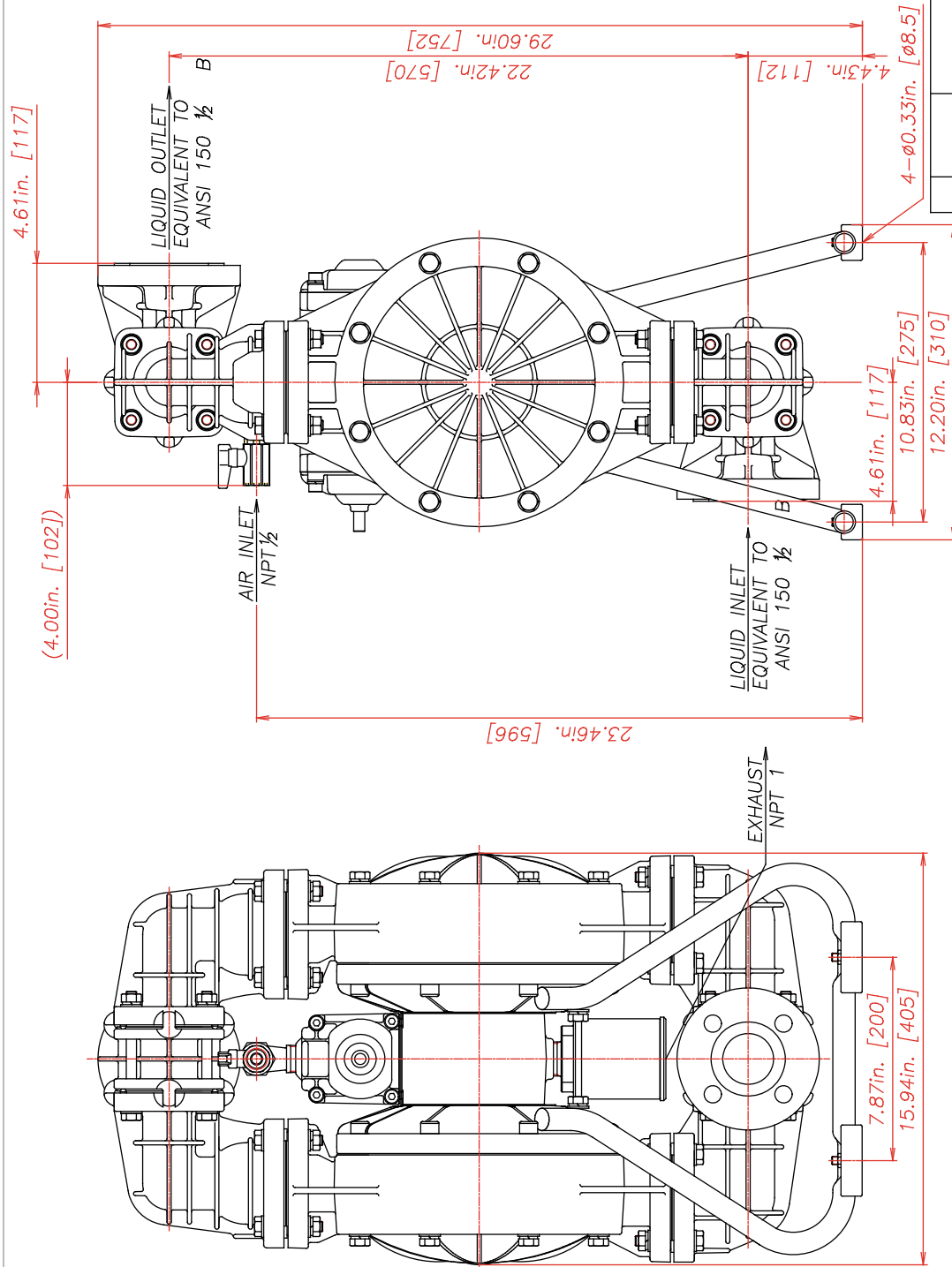
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DATE	01/09/12	APPROVED BY	S.K.
THIRD ANGLE PROJ.	DRAWING NUMBER: <b>NDP-40BS FLANGE</b>		
REV	1		

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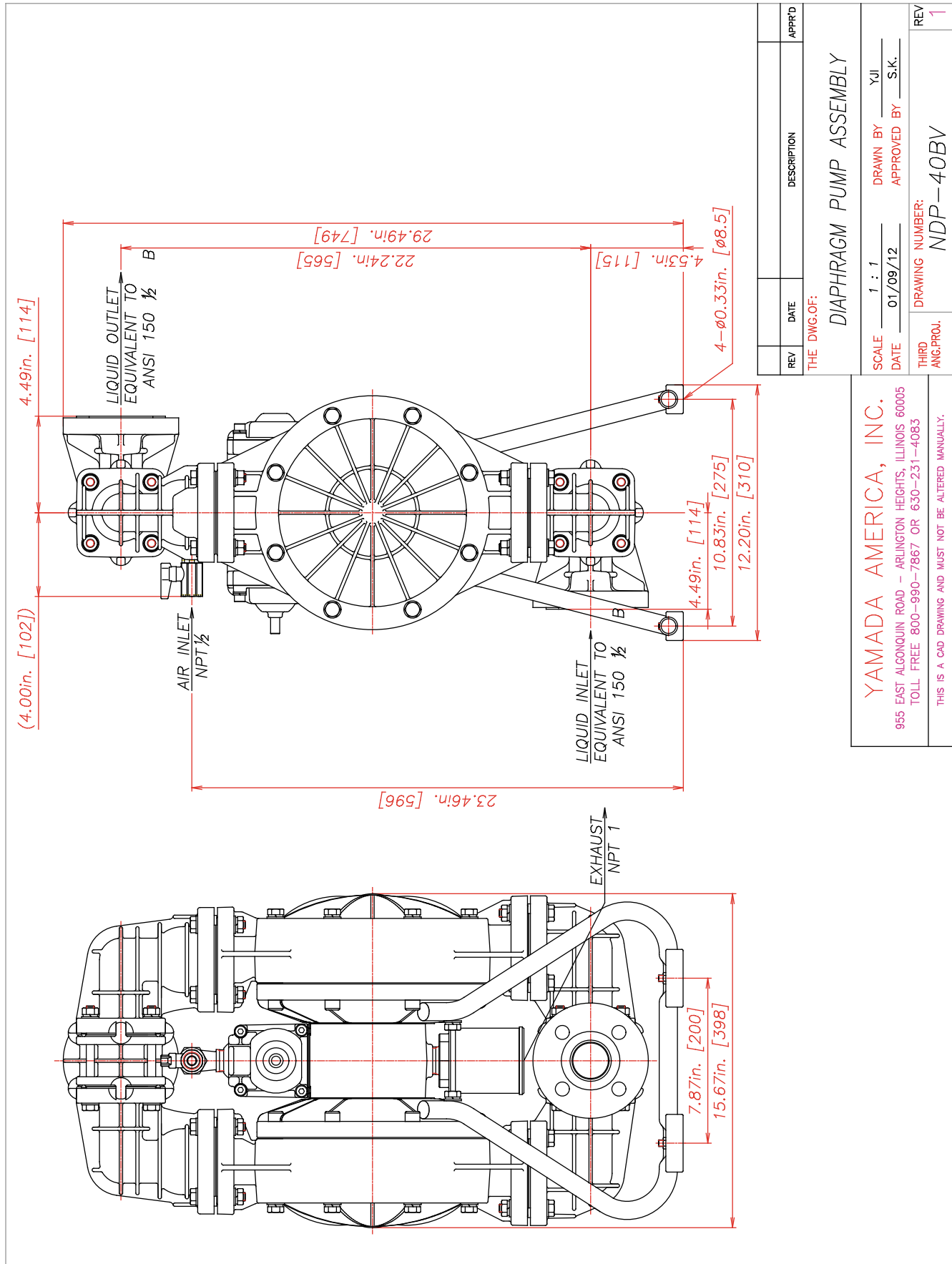
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DATE 01/09/12		APPROVED BY S.K.	
THIRD ANGRPDLJ	DRAWING NUMBER: <b>NDP-40BF</b>		REV 1

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REV	DATE	DESCRIPTION	APPR'D
THE DWG. OF: <b>DIAPHRAGM PUMP ASSEMBLY</b>			
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DATE 01/09/12		APPROVED BY S.K.	
THIRD ANG. PROJ.		DRAWING NUMBER: <b>NDP-40BP</b>	
REV 1			

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Due to Yamada's continued commitment to product improvement, specifications may change without notice.

# NDP-50 Specifications

## Port Dimensions (164 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG)	2" ANSI B16.5 #150
Kynar® (PVDF)	2" ANSI B16.5 #150
Aluminum (ADC-12)	2" ANSI B16.5 #150 (with tapped 2" Female NPT)
Stainless Steel (316)	2" ANSI B16.5 #150 or 2" Female NPT
Cast Iron	2" Female NPT
Air inlet (incl. ball valve):	3/4" Female NPT
Air exhaust (incl. silencer):	1" Female NPT

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
EPDM	212°F (100°C)
PTFE	212°F (100°C)
Hytrell® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal and Kynar®-fitted pumps is determined by the elastomer (diaphragm material). Polypropylene pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

Rubber diaphragm: 1.12 gallons (4.25 liters)

PTFE diaphragm: 0.69 gallons (2.61 liters)

## Maximum Cycles Per Minute

Rubber diaphragm: 146

PTFE diaphragm: 220

## Maximum Size Solid

5/16" (8 mm)

## Maximum Dry Suction Lift

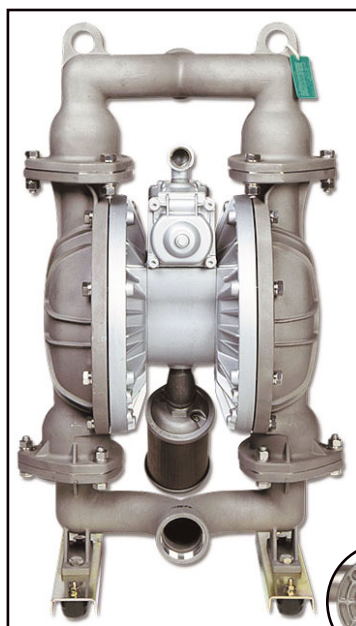
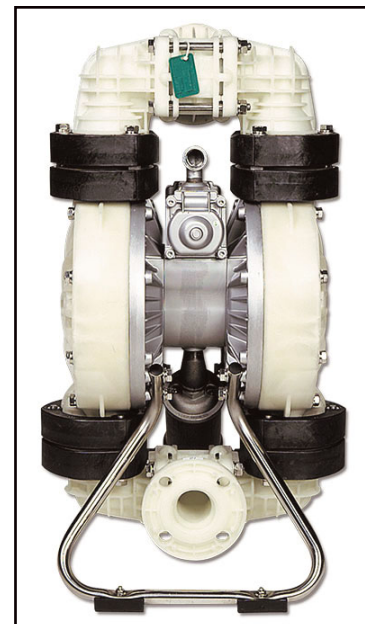
Rubber-fitted pump capability: 19-feet

## Air Motor

Aluminum Air Motor–Standard

Optional coating: PTFE grey coated (XP)

Notes: Hytrell® fitted pumps include Buna N wetted o-rings. Santoprene® fitted pumps include EPDM wetted o-rings. Kynar® (PVDF) pumps fitted with Santoprene®, Hytrell®, or PTFE include PTFE check balls and o-rings.



**Aluminum (top left)**  
**Dimensions:** 17.68" W × 30.67" H  
**Net Wt.:** 88 lbs. (39.9 kg)  
**Shipping Wt.:** 99 lbs.

**Polypropylene or Kynar® (top right)**  
**Dimensions:** 18.63" W × 32.32" H  
**Net Wt.:** 84 lbs. (38.1 kg)  
**Shipping Wt.:** 108 lbs.

**Cast Iron or Stainless Steel (left)**  
**Dimensions:** 17.72" W × 30.55" H  
**Net Wt.:** Cast Iron –159 lbs. (72.1 kg)  
 SS –162 lbs. (73.5 kg)  
**Shipping Wt.:** Cast Iron –168 lbs.  
 SS –173 lbs.



Note: ANSI Flange available for Cast Iron and Stainless Steel

## Model Number Nomenclature

**Series:** NDP-50 B x x Pump

**Valve Type:**  
B = Ball

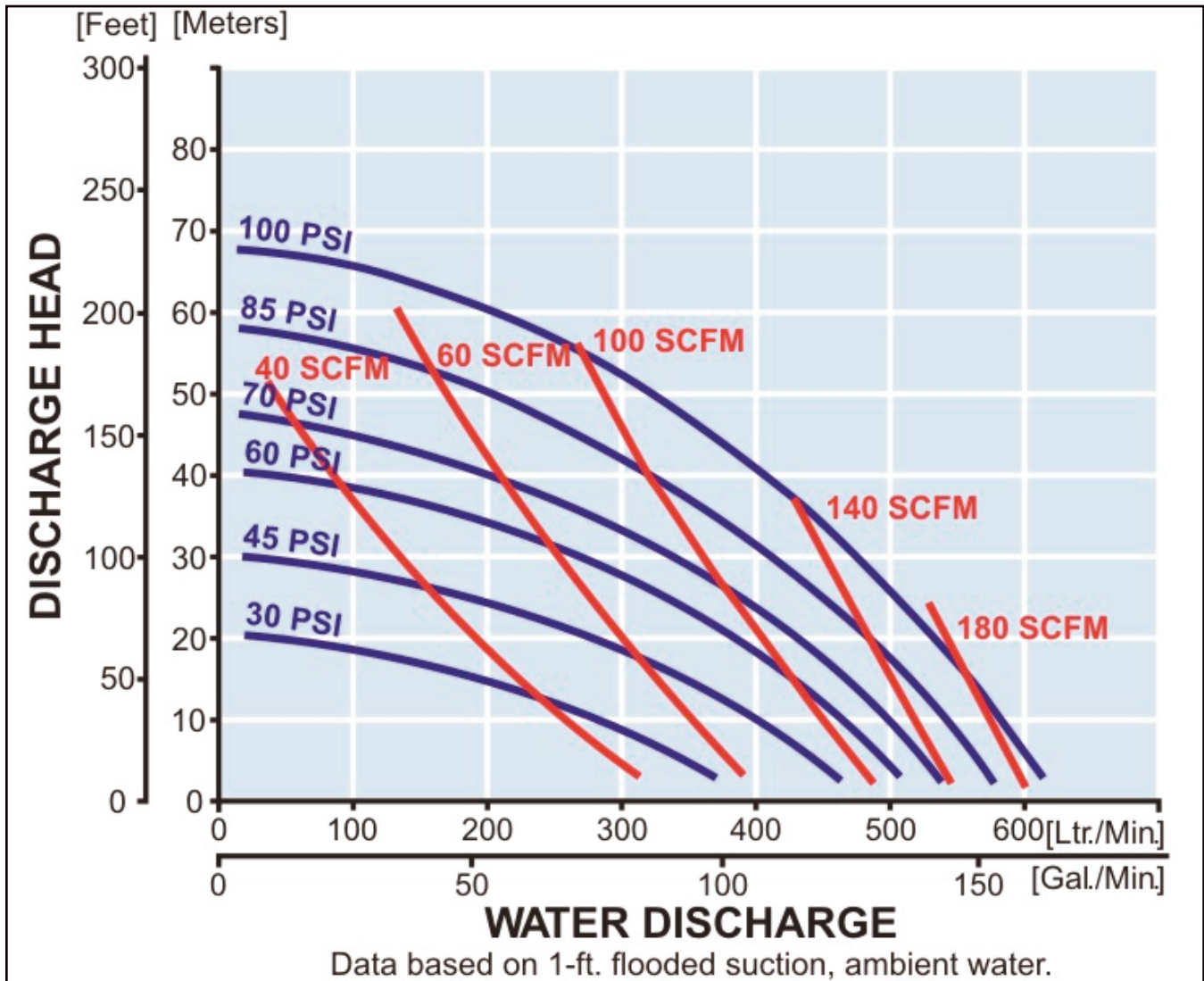
**Body Material:**  
 P = Polypropylene  
 A = Aluminum  
 S = Stainless Steel  
 F = Cast Iron  
 V = Kynar®

**Diaphragm Material:**  
 C = Neoprene (CR)  
 N = Buna N (NBR)  
 E = Nordel™ (EPDM)  
 S = Santoprene® (TPO)  
 T = PTFE  
 V = Viton® (FKM)  
 H = Hytrell® (TPE)

Note: For NPT-fitted Stainless Steel, add "NPT" at end of model number nomenclature.

# NDP-50 Performance Curve – Rubber

## Rubber Diaphragm Performance Curve

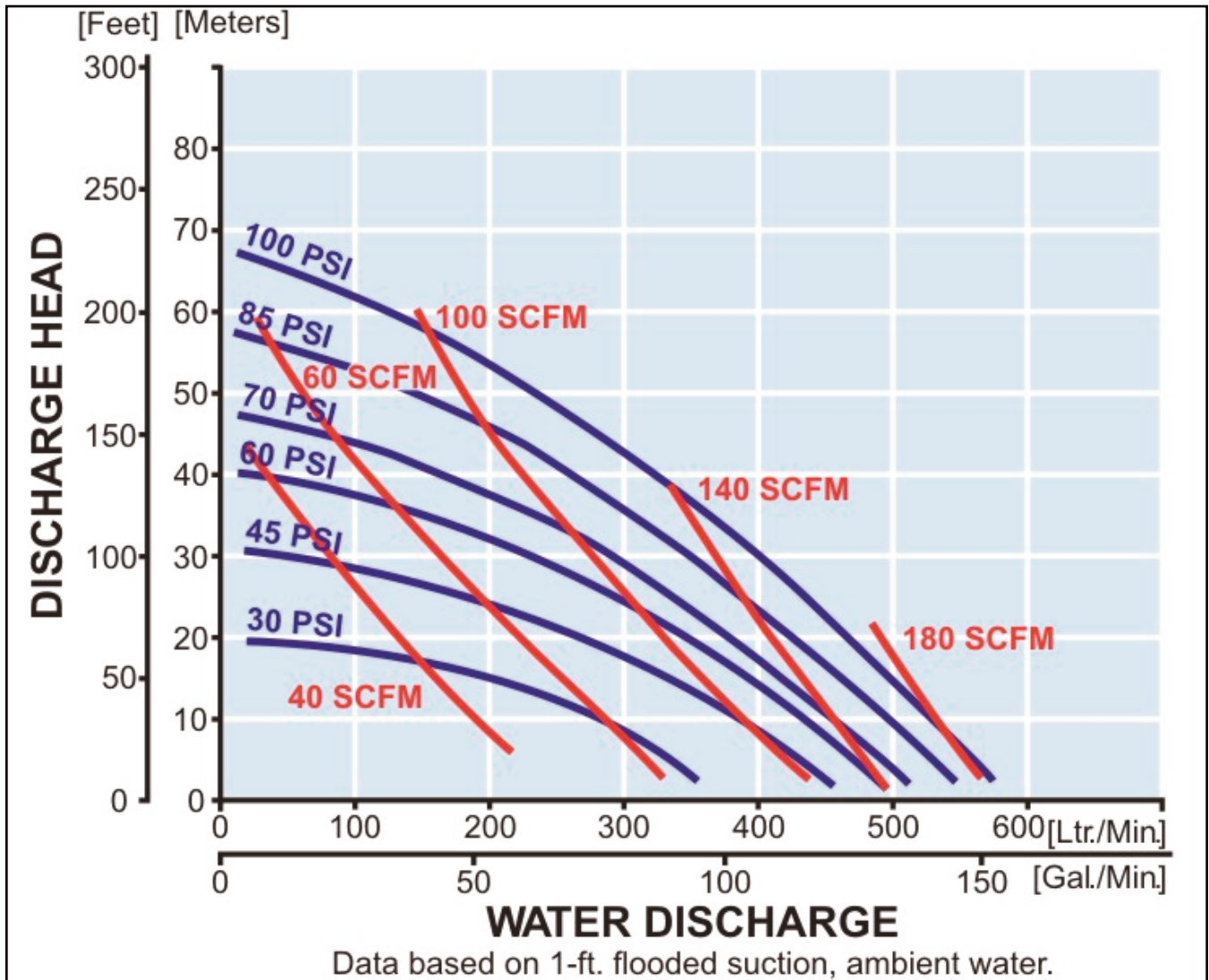


To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.

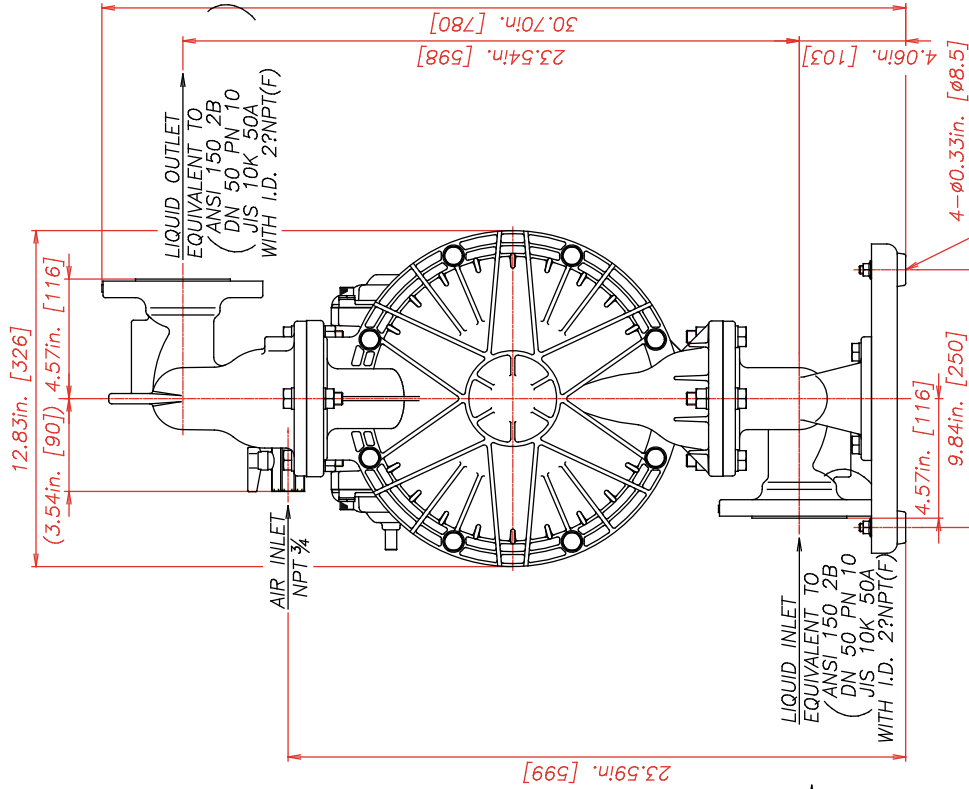


# NDP-50 Performance Curve – PTFE

## PTFE Diaphragm Performance Curve

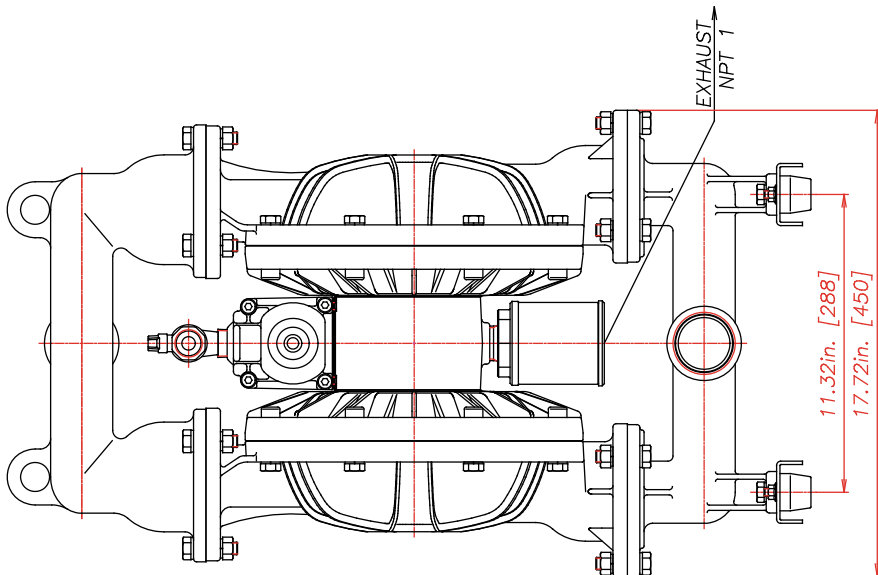
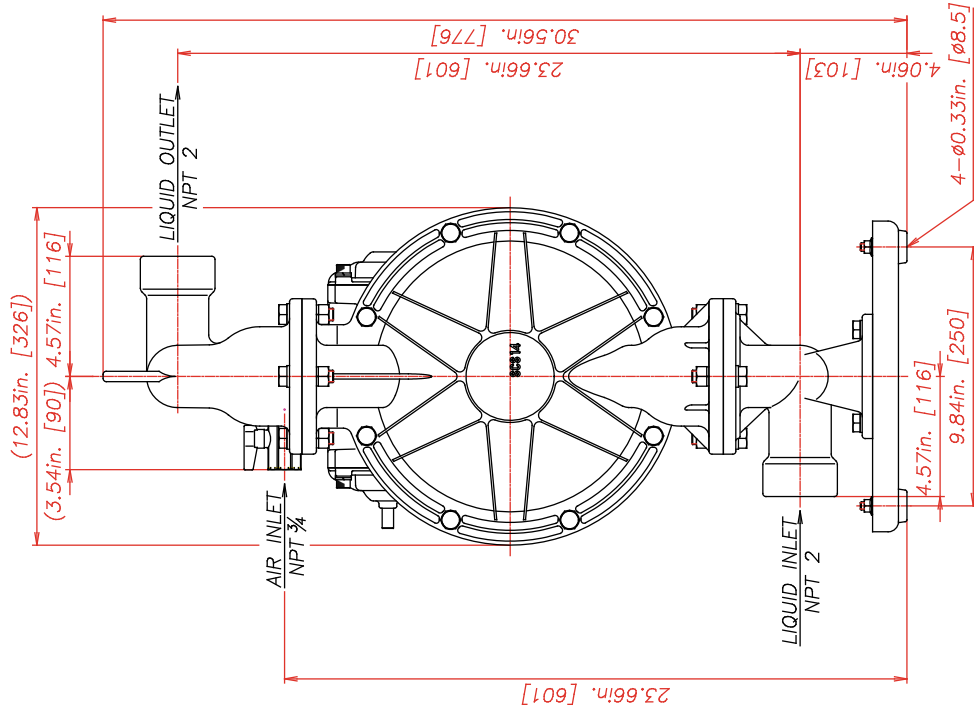


To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.



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<b>DIAPHRAGM PUMP ASSEMBLY</b>			
SCALE 1 : 1		DRAWN BY Y.J.I.	
DATE 01/09/12		APPROVED BY S.K.	
THIRD ANGLE PROJ.	DRAWING NUMBER: NDP-50BA		REV 1

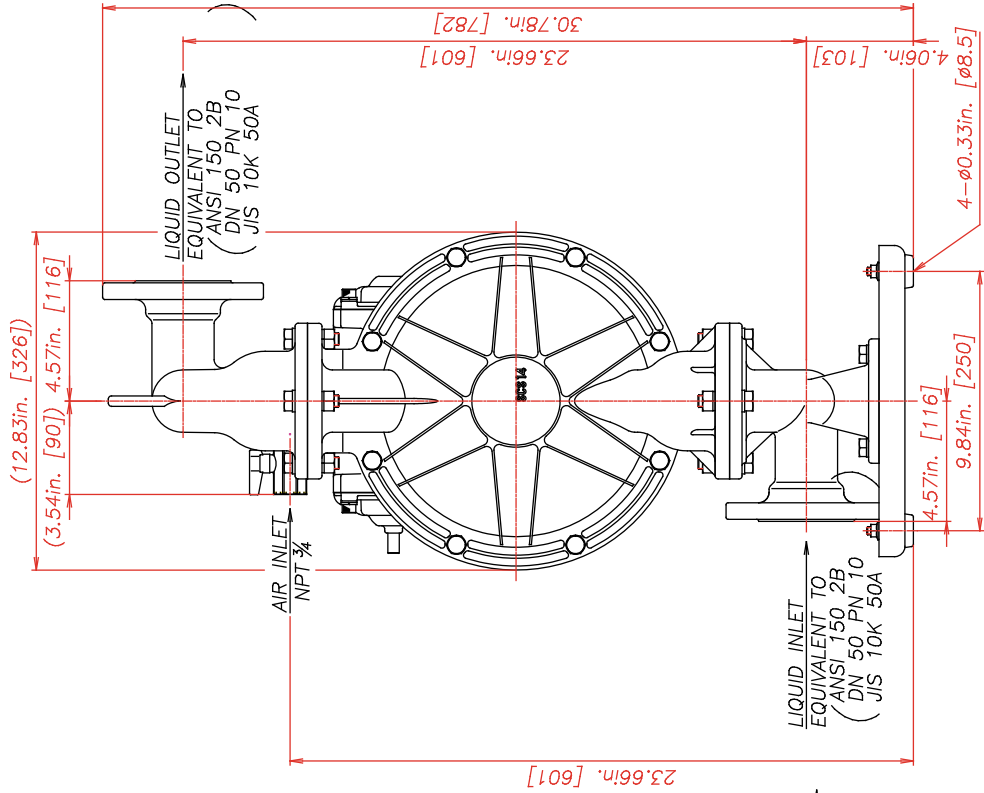
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THE DWG.OF: <b>DIAPHRAGM PUMP ASSEMBLY</b>			
SCALE <b>1 : 1</b>		DRAWN BY <b>Y.JI</b>	
DATE <b>01/09/12</b>		APPROVED BY <b>S.K.</b>	
THIRD ANGLE PROJ.	DRAWING NUMBER: <b>NDP-50BS NPT</b>		REV <b>1</b>

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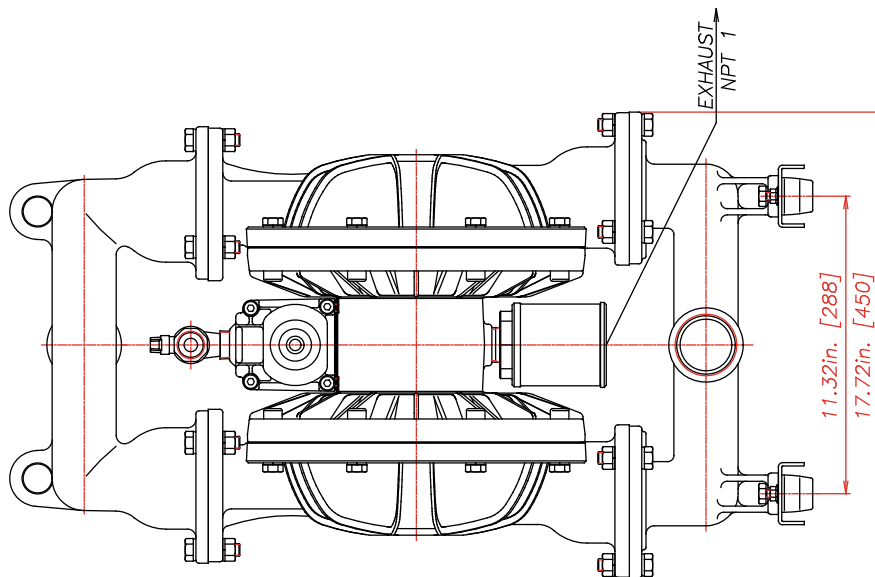
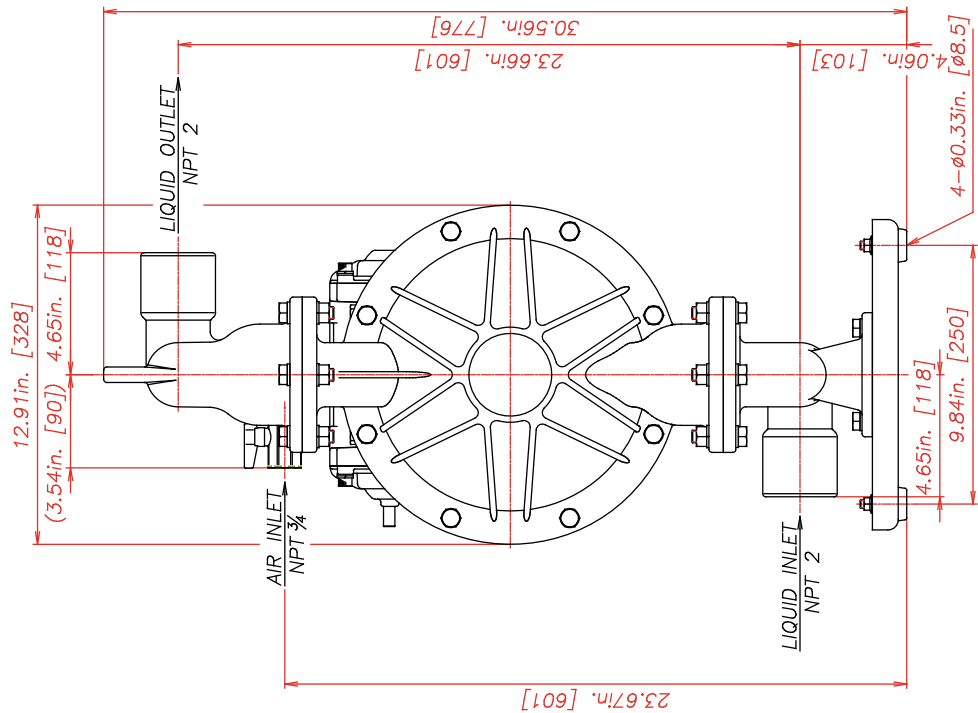


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DATE <b>01/09/12</b>		APPROVED BY <b>S.K.</b>	
THIRD ANGRPDLJ	DRAWING NUMBER: <b>NDP-50BS FLANGE</b>		REV <b>1</b>

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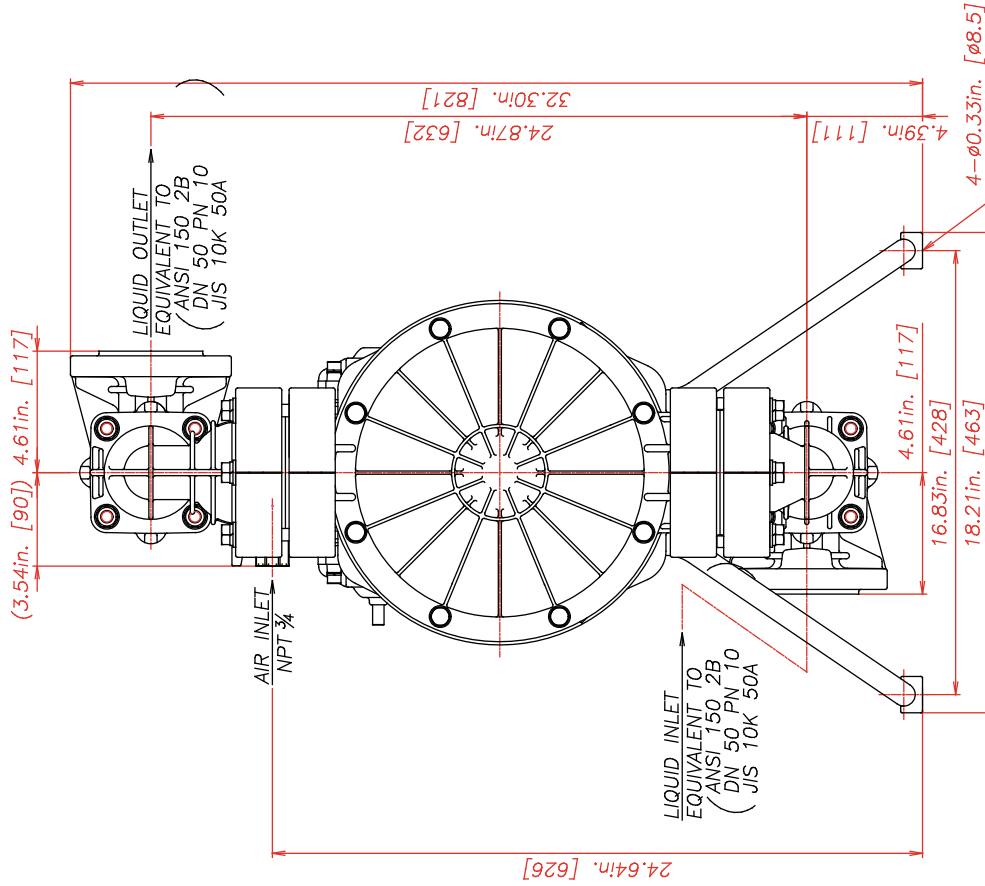
**Yamada America, Inc.** 955 E. Algonquin Road, Arlington Heights, IL 60005  
 USA Toll-Free: 800 990-7867 Phone: 847 631-9200 Fax: 847 631-9273  
 E-mail: sales@yamadapump.com Web: [yamadapump.com](http://yamadapump.com)



REV	DATE	DESCRIPTION	APPR'D
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DATE 01/09/12		APPROVED BY S.K.	
THIRD ANG. PROJ.	DRAWING NUMBER: NDP-50BF		REV 1

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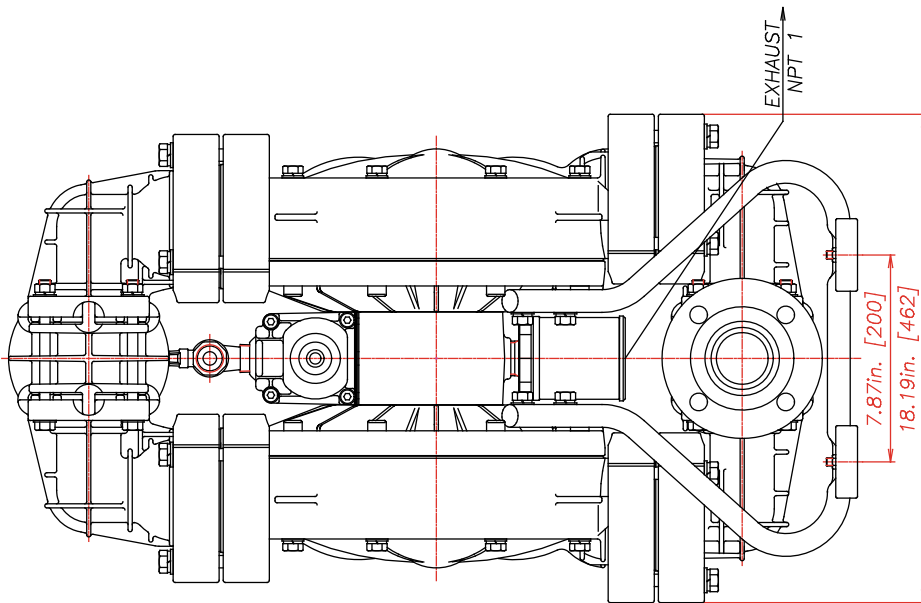
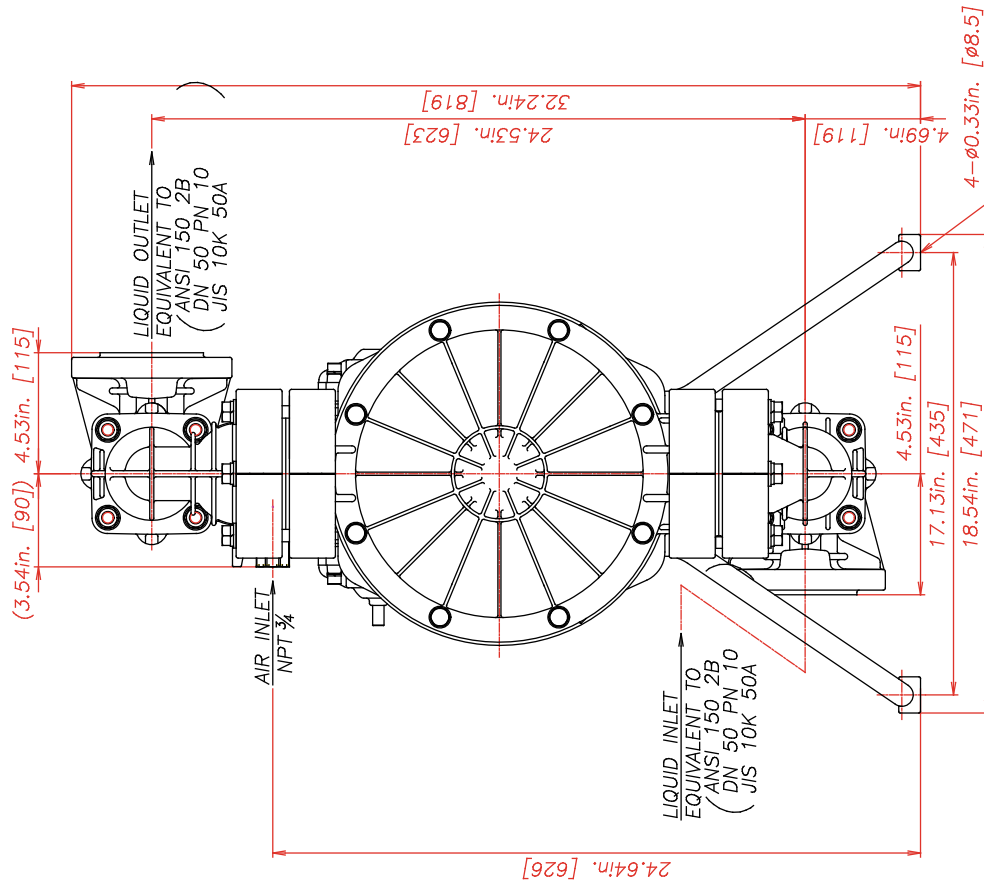


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DATE 01/09/12		APPROVED BY S.K.	
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REV	DATE	DESCRIPTION	APPR'D
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DATE	01/09/12	APPROVED BY	S.K.
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	NDP-50BV		1

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Due to Yamada's continued commitment to product improvement, specifications may change without notice.



# NDP-80 Specifications

## Port Dimensions (215 GPM Max.)

Intake & discharge connection:

Polypropylene (PPG)	3" ANSI B16.5 #150
Aluminum (ADC-12)	3" ANSI B16.5 #150 (with tapped 3" Female NPT)
Stainless Steel (316)	3" ANSI B16.5 #150 or 3" Female NPT
Cast Iron	3" Female NPT
Air inlet (incl. ball valve):	3/4" Female NPT
Air exhaust (incl. silencer):	1" Female NPT

## Maximum Liquid Temperature\*

Diaphragm Material	Temperature
Buna N	180°F (82°C)
Neoprene	180°F (82°C)
Santoprene® (TPO)	180°F (82°C)
EPDM	212°F (100°C)
PTFE	212°F (100°C)
Hytrell® (TPEE)	248°F (120°C)
Viton® fluoroelastomer	248°F (120°C)

\*The maximum liquid temperature for metal pumps is determined by the elastomer (diaphragm material). Polypropylene pumps have a maximum liquid temperature of 180°F (82°C) regardless of diaphragm material.

## Air Supply Pressure (All Models)

20–100 PSI (1.4–7 kfg/cm)

## Discharge Volume Per Cycle

Rubber diaphragm: 2.26 gallons (8.57 liters)

PTFE diaphragm: 1.0 gallons (3.8 liters)

## Maximum Cycles Per Minute

Rubber diaphragm: 95

PTFE diaphragm: 160

## Maximum Size Solid

13/32" (10 mm)

## Maximum Dry Suction Lift

Rubber-fitted pump capability: 19-feet

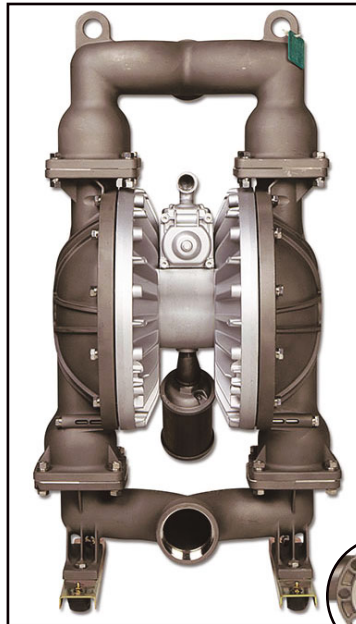
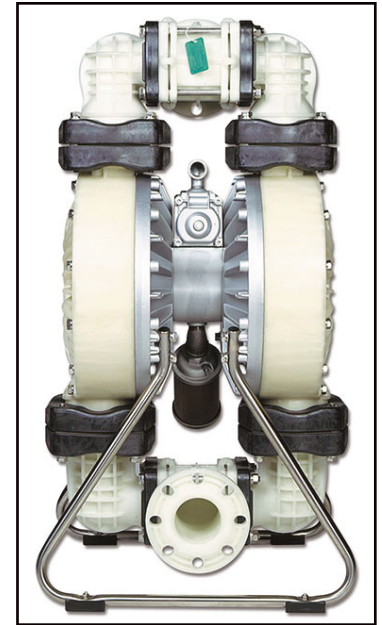
## Air Motor

Aluminum Air Motor–Standard

Optional coating: PTFE grey coated (XP)

Notes: Hytrell® fitted pumps include Buna-N wetted o-rings. Santoprene® fitted pumps include EPDM wetted o-rings.

AutoCAD® drawings are available on CDROM or at [yamadapump.com](http://yamadapump.com)



### Aluminum (top left)

**Dimensions:** 20.43" W × 40.75" H

**Net Wt.:** 151 lbs. (68.5 kg)

**Shipping Wt.:** 165 lbs.

### Polypropylene (top right)

**Dimensions:** 22.83" W × 41.10" H

**Net Wt.:** 162 lbs. (73.5 kg)

**Shipping Wt.:** 177 lbs.

### Cast Iron or Stainless Steel (left)

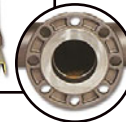
**Dimensions:** 20.54" W × 38.74" H

**Net Wt.:** Cast Iron – 271 lbs. (122.9 kg)

SS – 244 lbs. (110.7 kg)

**Shipping Wt.:** Cast Iron – 277 lbs.

SS – 263 lbs.



Note: ANSI Flange available for Stainless Steel

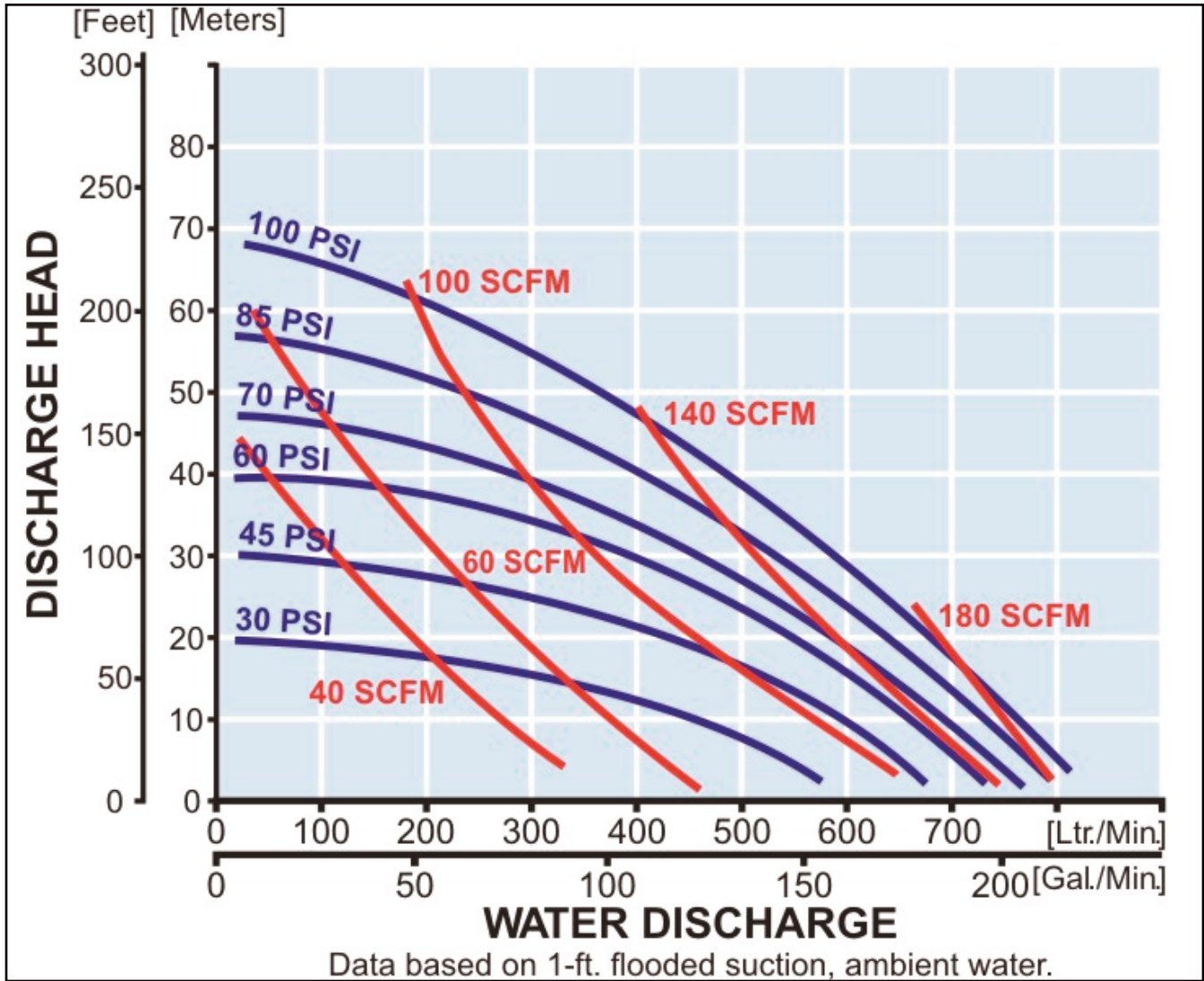
## Model Number Nomenclature

**Series:** NDP-80 Pump  
**Valve Type:** B = Ball  
**Diaphragm Material:** C = Neoprene (CR), N = Buna N (NBR), E = Nordel™ (EPDM), S = Santoprene® (TPO), T = PTFE, V = Viton® (FKM), H = Hytrell® (TPE)  
**Body Material:** P = Polypropylene, A = Aluminum, S = Stainless Steel, F = Cast Iron

Note: For NPT-fitted Stainless Steel, add "NPT" at end of model number nomenclature.

# NDP-80 Performance Curve – Rubber

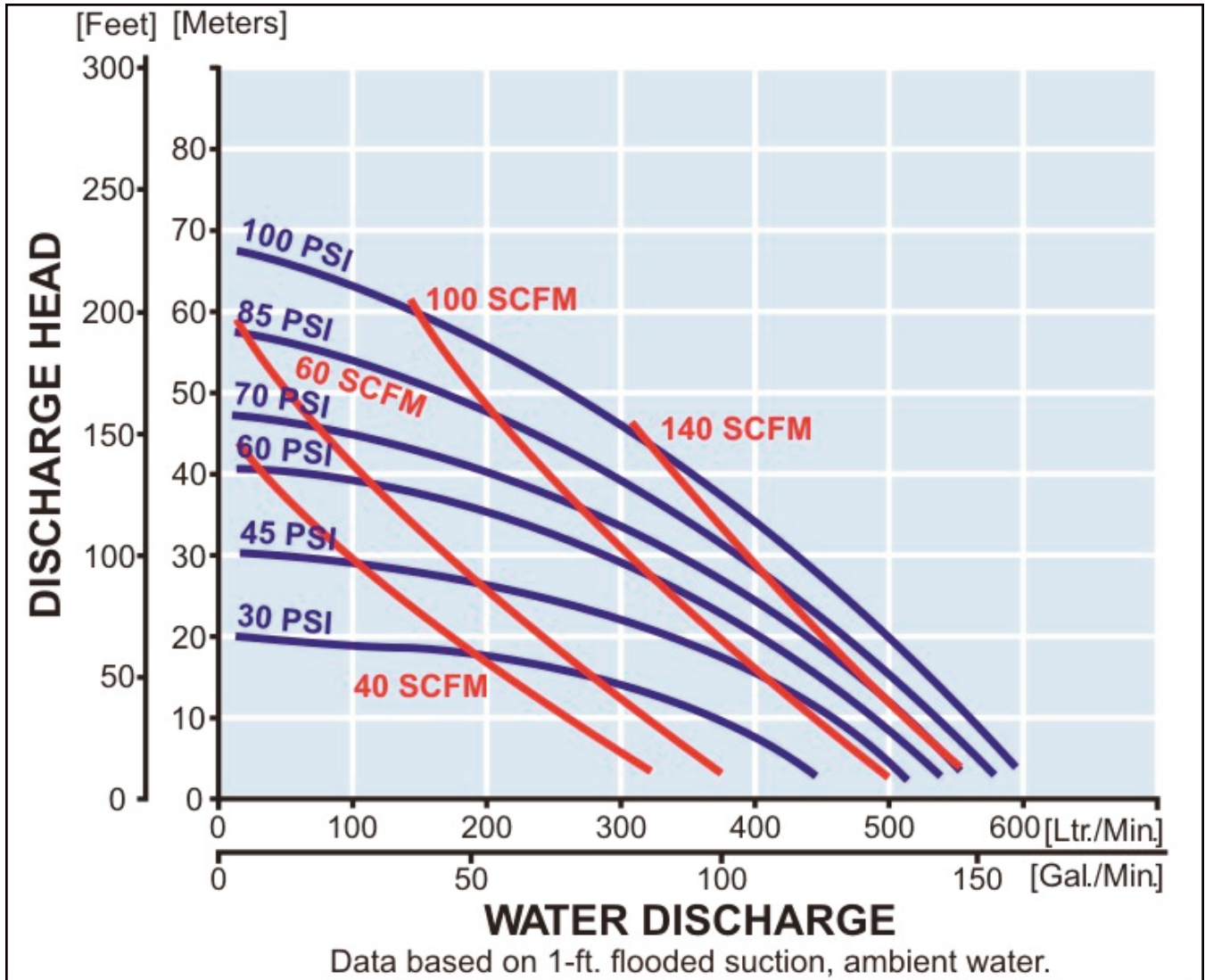
## Rubber Diaphragm Performance Curve



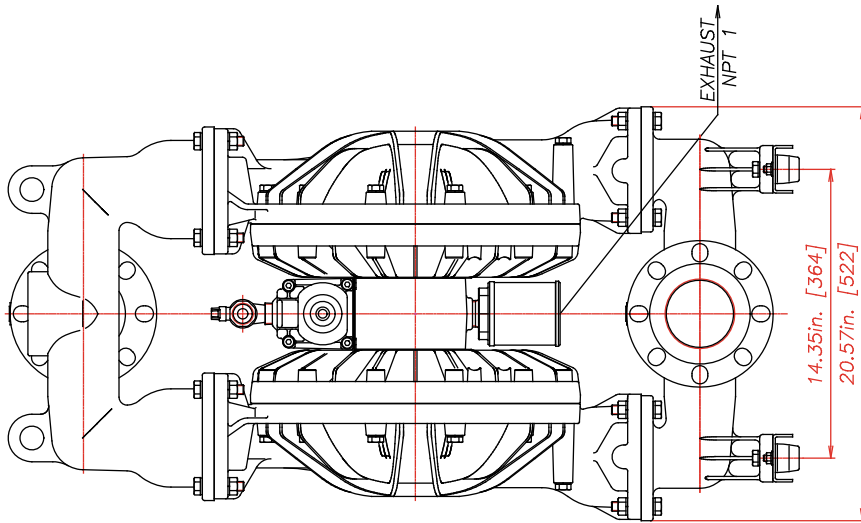
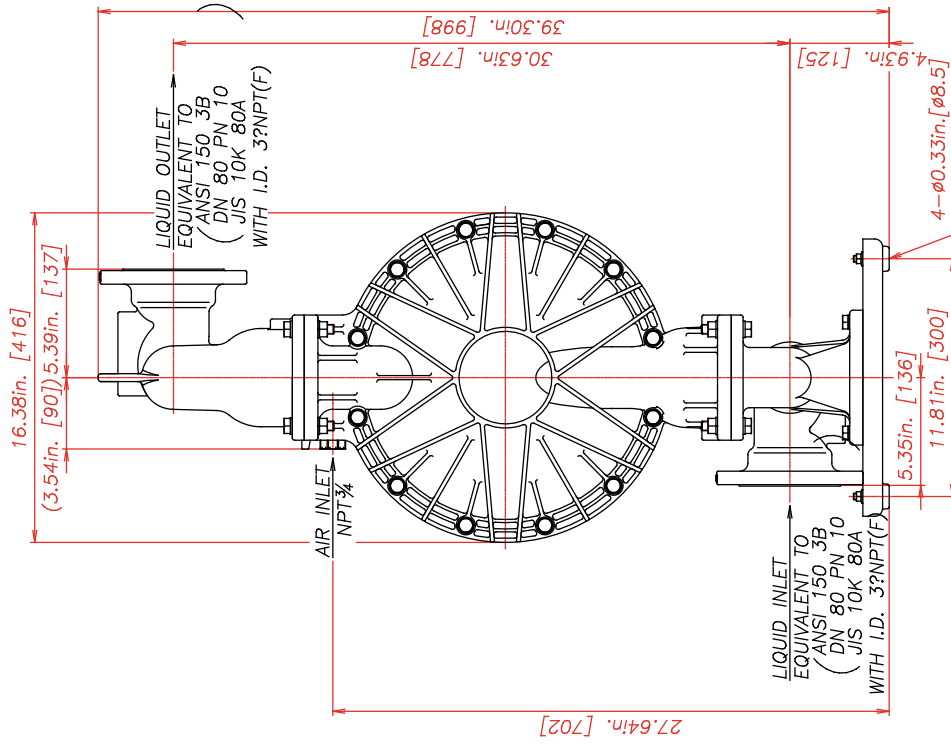
To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.

# NDP-80 Performance Curve – PTFE

## PTFE Diaphragm Performance Curve



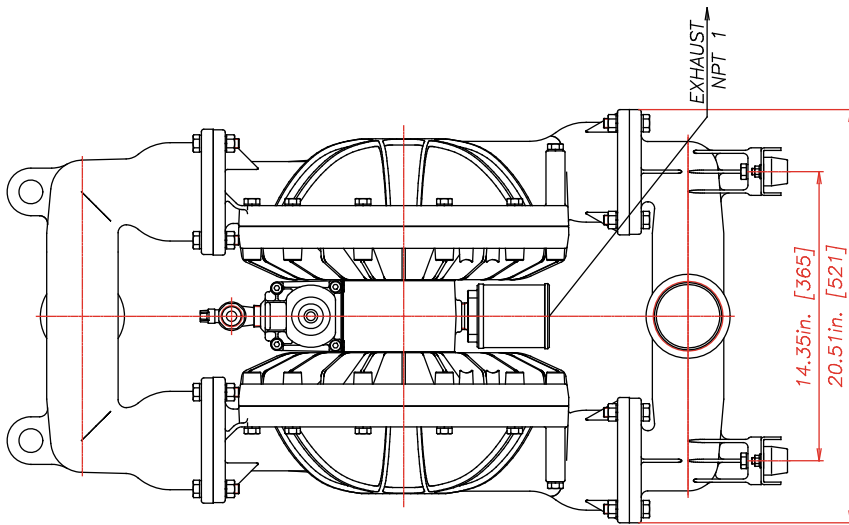
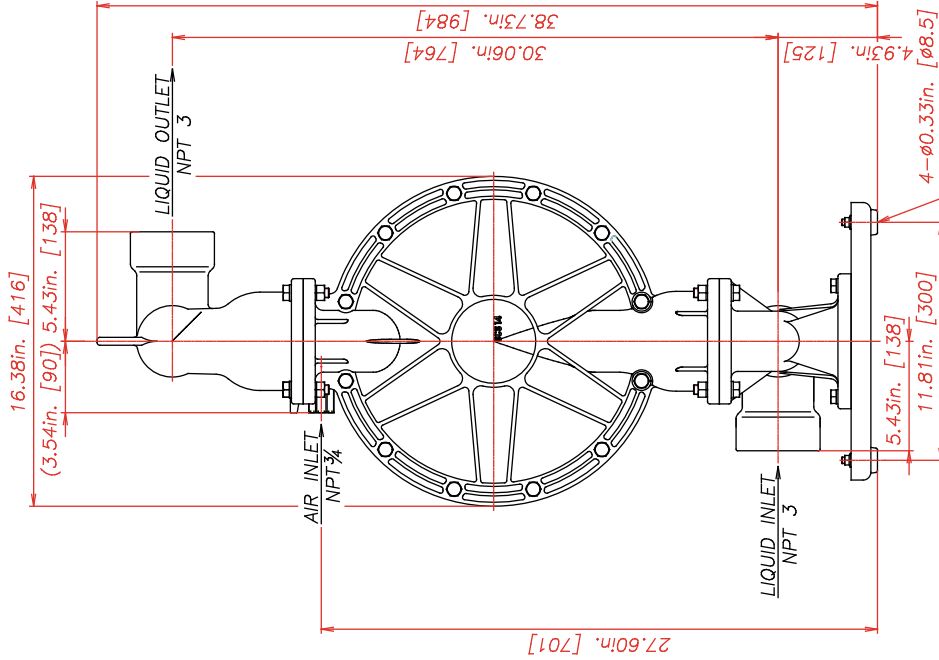
To calculate performance for Santoprene® and Hytrel®-fitted pumps, use Rubber Diaphragm Curve.



REV	DATE	DESCRIPTION	APPR'D
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SCALE 1 : 1		DRAWN BY YJI	
DATE 01/09/12		APPROVED BY S.K.	
THIRD ANG. PROJ.	DRAWING NUMBER: <b>NDP-80BA</b>		REV 1

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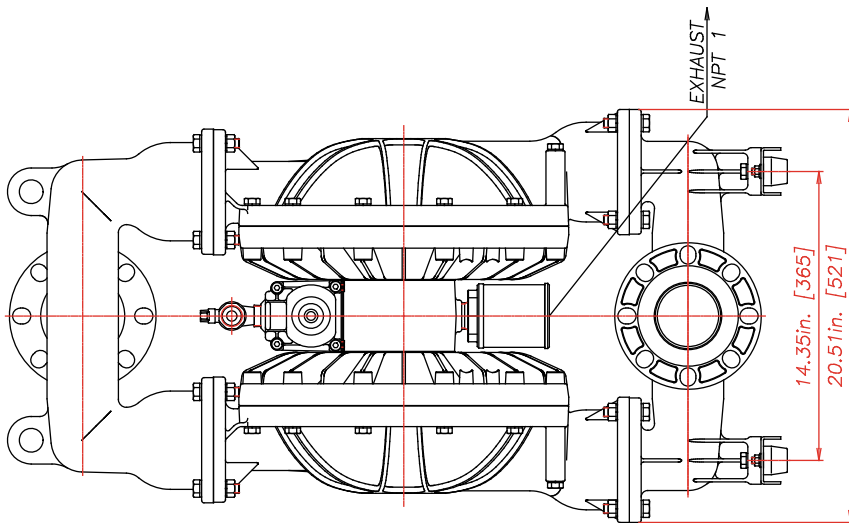
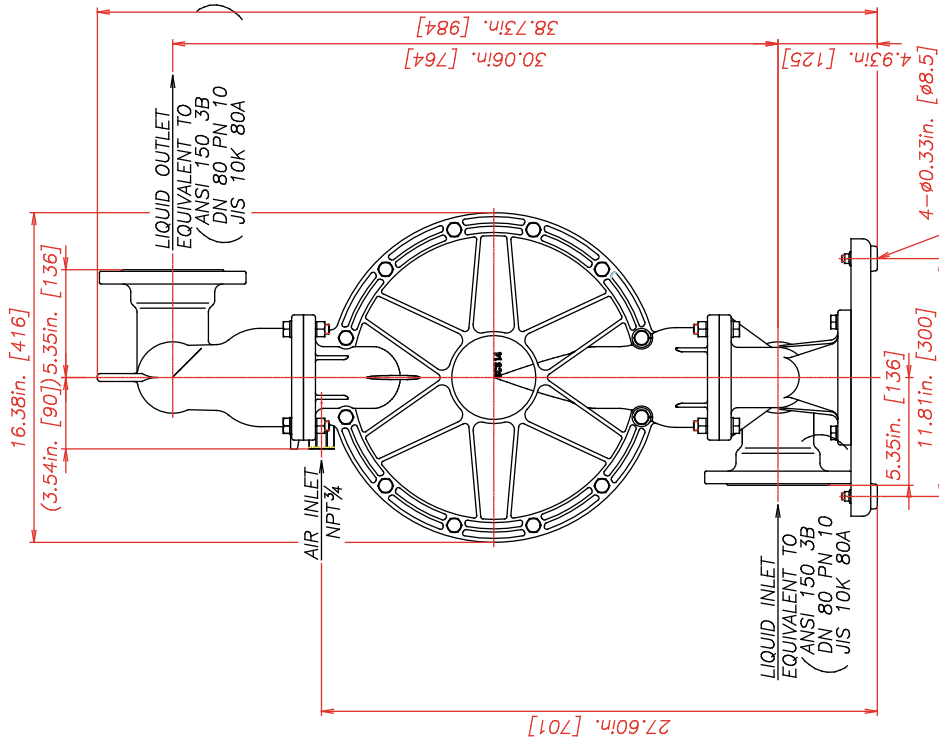
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REV	DATE	DESCRIPTION	APPR'D
THE DWG. OF:			
<b>DIAPHRAGM PUMP ASSEMBLY</b>			
SCALE 1 : 1		DRAWN BY YJI	
DATE 01/09/12		APPROVED BY S.K.	
THIRD ANGRPDLJ	DRAWING NUMBER: NDP-80BS NPT		REV 1

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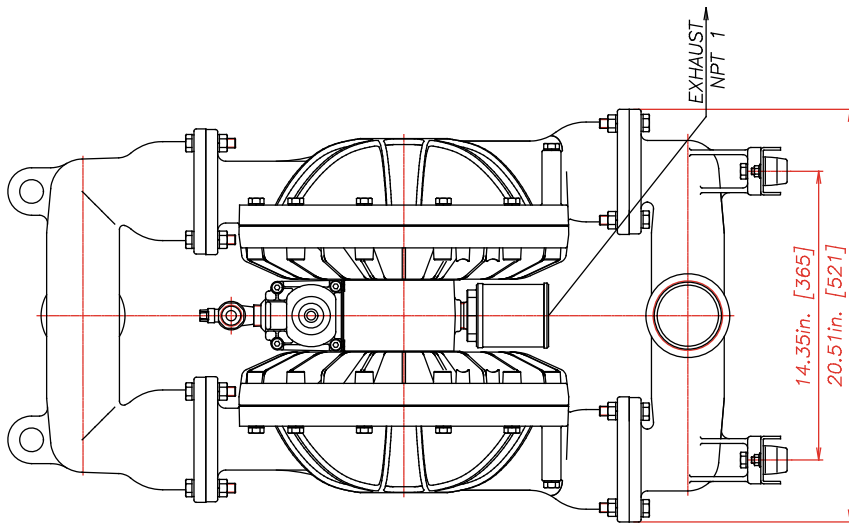
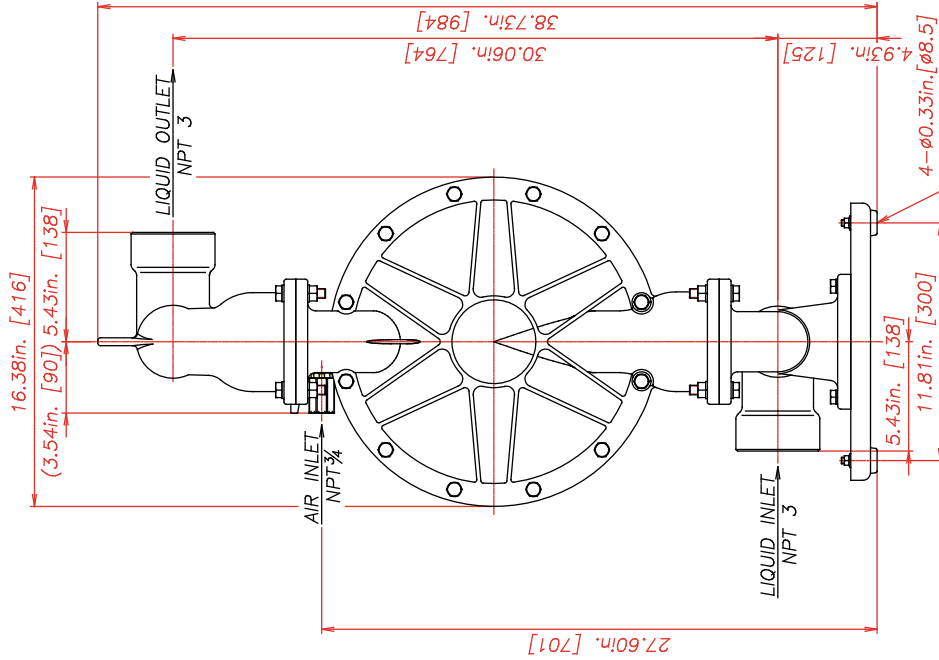
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REV	DATE	DESCRIPTION	APPR'D
THE DWG. OF: <b>DIAPHRAGM PUMP ASSEMBLY</b>			
SCALE 1 : 1		DRAWN BY Y.JI	
DATE 01/09/12		APPROVED BY S.K.	
THIRD ANGLE PROJ.	DRAWING NUMBER: <b>NDP-80BS FLANGE</b>		REV <b>1</b>

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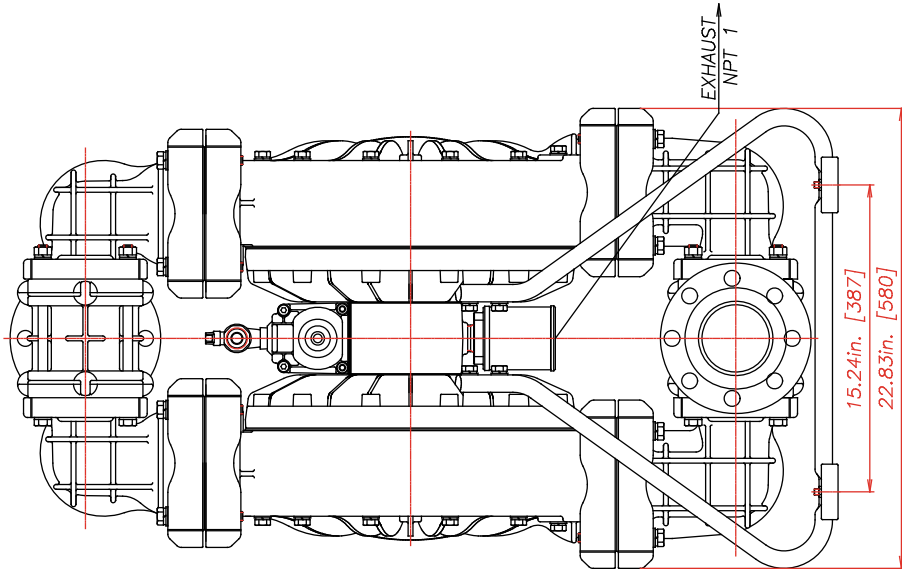
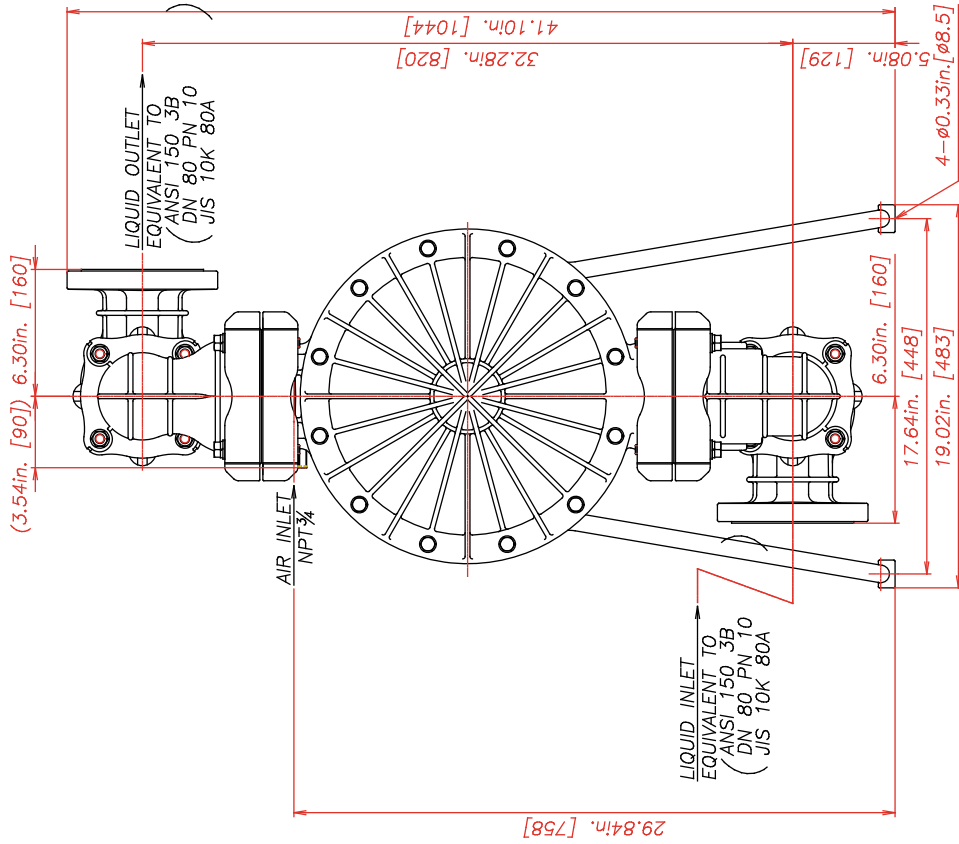
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REV	DATE	DESCRIPTION	APPR'D
THE DWG. OF: <b>DIAPHRAGM PUMP ASSEMBLY</b>			
SCALE 1 : 1		DRAWN BY YJI	
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THIRD ANG. PROJ.	DRAWING NUMBER: <b>NDP-80BF</b>		REV 1

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SCALE 1 : 1		DRAWN BY Y JI	
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THIRD ANGLE PROJ.	DRAWING NUMBER: <b>NDP-80BP</b>		REV <b>1</b>

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