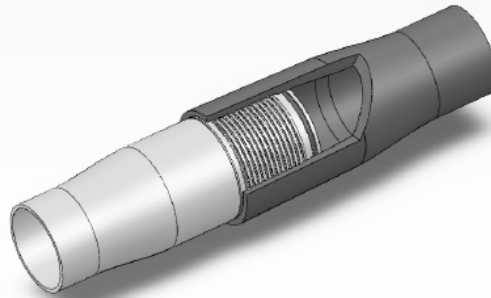


## SPH Series - Fiberglass Epoxy Integral Joint Surface Pipe

### APPLICATIONS

- *Flow Lines*
- *Chemical Disposal Lines*
- *Injection Lines*
- *Recirculating Lines*
- *Solution Mining*
- *Water Processing*



Centron® SPH Series Surface Pipe with its unique high strength, multiple seal joint, makes it the choice for corrosive oil field and other demanding fluid transport applications. Sizes are available in 4" through 10" pipe. Centron's Quality System is certified to API Specification Q1 and ISO 9001, assuring customers of the highest quality products in the industry. Centron offers two standard resin systems. The Centron anhydride/epoxy system delivers trouble free service in the vast majority of oilfield fluids to 150°F (65.5°C). The Centron aromatic amine/epoxy system provides service over a wide pH range up to temperatures of 210°F (99°C). Both systems may be hot oiled to 225°F (106°C) for periods of time up to 24 hours at pressures not to exceed 50% of the ambient temperature static pressure rating

### JOINING SYSTEM

- Multiple seal for high reliability—threads and O-ring
- Coarse threads (4 threads per inch)—no cross threading—high-strength. No thrust blocks required
- Patented non-galling composite threads available
- Make-up to specified torque or position
- No special tools required for installation

### FEATURES

- Balanced filament wound construction using only the highest quality raw materials and modern manufacturing equipment
- Centron's complete line of fittings and adapters have the same safety factors as the pipe and are manufactured with the same high quality materials to provide complete reliability throughout the pipeline system.

### ADVANTAGES

- About 1/4 the weight of steel
- Assemble in any weather—no adhesives required
- Superior flow characteristics
- Coarse threads—no cross threading
- Excellent corrosion resistance, long service life
- Exceptional pressure and axial load capabilities
- Low installation costs
- Low paraffin and scale build-up

NOV Fiber Glass Systems manufactures a complete line of fiberglass surface pipe, line pipe, tubing, casing and associated fittings. See your distributor or call NOV Fiberglass Systems for all your fiberglass tubular product needs.

## SPH Series- Fiberglass Epoxy Integral Joint Surface Pipe

### Physical Specifications

Nominal Size	Series/Static Pressure Rating	Nominal O.D.		Nominal I.D.		Nominal Wall Thickness		Nominal Box O.D.		Weight	
		in	mm	in	mm	in	mm	in	mm	lbs./ft	kg/m
4 100	SPH 1500	4.46	113.3	3.98	101.1	0.240	6.1	6.2	157	2.6	3.83
	SPH 2000	4.62	117.3	3.98	101.1	0.320	8.1	6.6	168	3.5	5.17
	SPH 2500	4.78	121.4	3.98	101.1	0.400	10.2	6.9	175	4.5	6.65
6 150	SPH 800	6.49	164.8	6.1	154.9	0.195	4.9	8.4	213	3.1	4.60
	SPH 1000	6.58	167.1	6.1	154.9	0.240	6.1	8.6	218	4.0	5.89
	SPH 1250	6.70	170.2	6.1	154.9	0.300	7.6	8.9	226	4.9	7.33
	SPH 1500	6.81	173.0	6.1	154.9	0.355	9.0	9.1	231	5.9	8.79
	SPH-HP 1750	6.26	159.0	5.5	139.7	0.380	9.6	9.2	234	5.7	8.46
	SPH-HP 2000	6.37	161.8	5.5	139.7	0.435	11.5	9.4	239	6.5	9.71
	SPH-HP 2250	6.48	164.6	5.5	139.7	0.490	12.4	9.6	244	7.4	11.10
	SPH-HP 2500	6.59	167.4	5.5	139.7	0.545	13.8	9.8	249	8.3	12.38
7 ¾ 75	SPH 800	8.24	209.3	7.75	196.9	0.245	6.2	10.2	259	5.0	7.42
	SPH 1000	8.35	212.1	7.75	196.9	0.300	7.6	10.5	267	6.2	9.22
	SPH 1250	8.50	215.9	7.75	196.9	0.375	9.5	10.8	274	7.7	11.54
	SPH 1500	8.65	219.7	7.75	196.9	0.450	11.4	11.1	282	9.3	13.91
	SPH 1800	8.83	224.3	7.75	196.9	0.540	13.7	11.4	290	11.3	16.83
8 200	SPH 500	8.75	222.2	8.42	213.9	0.165	4.2	10.4	264	3.6	5.43
	SPH 800	8.95	227.3	8.42	213.9	0.265	6.7	10.8	274	5.9	8.75
	SPH 1000	9.07	230.4	8.42	213.9	0.325	8.3	11.0	279	7.3	10.88
	SPH-HP 1250	8.50	215.9	7.75	196.9	0.375	9.5	11.4	290	7.7	11.54
	SPH-HP 1500	8.65	219.7	7.75	196.9	0.450	11.4	11.6	295	9.3	13.91
	SPH-HP 1750	8.80	223.5	7.75	196.9	0.525	13.3	12.0	305	11.1	16.48
	SPH-HP 2000	8.95	227.3	7.75	196.9	0.600	15.2	12.2	310	12.7	18.93
10 250	SPH 400 <sup>3</sup>	10.03	254.8	9.72	246.9	0.155	3.9	11.8	300	3.8	5.66
	SPH 500	10.10	256.5	9.72	246.9	0.190	4.8	12.0	305	4.9	7.25
	SPH 800	10.32	262.1	9.72	246.9	0.300	7.6	12.3	312	7.7	11.48

1. Pipe Ratings are based on currently available long term and other test data. In all cases, chemical compatibility must be considered along with all other known operating conditions in selecting the proper system for given service.

2. Centron® SPH Series Surface Pipe Joints are 29.16 ft. (8.89 M) overall length with a "make-up" length of 28.66 ft. (8.74 M).

3. Vacuum breakers may be required.

## SPH Series - Fiberglass Epoxy Integral Joint Surface Pipe

### Performance Properties

Nominal Size	Series/Static <sup>1</sup> Pressure Rating	Minimum Bend Radius		Offset per Joint		Support Spacing		Axial Thread Load		Ultimate External Collapse Pressure		Minimum <sup>2</sup> Box O.D.	
		in	mm	ft	m	in	m	ft	m	lbs.	kg	psi	MPa
4 100	SPH 1500	222	67.7	24	0.6	12	3.7	90,000	40,800	1,112	7.7	5.47	139
	SPH 2000	230	69.9	24	0.6	12	3.7	90,000	40,800	2,347	16.2	5.63	143
	SPH 2500	238	72.4	23	0.6	12	3.7	90,000	40,800	4,260	29.4	5.79	147
	SPH 3000	246	74.8	22	0.6	12	3.7	90,000	40,800	6,795	46.9	5.95	151
6 150	SPH 800	324	98.6	17	0.4	15	4.5	150,000	68,000	187	1.3	7.72	196
	SPH 1000	329	100.1	16	0.4	15	4.5	150,000	68,000	366	2.5	7.82	199
	SPH 1250	334	101.8	16	0.4	15	4.5	150,000	68,000	655	4.5	7.92	201
	SPH 1500	340	103.5	16	0.4	15	4.5	150,000	68,000	1,049	7.2	8.04	204
	SPH-HP 1750	312	94.9	17	0.4	14	4.3	150,000	68,000	1,609	11.1	8.08	205
	SPH-HP 2000	317	96.5	17	0.4	14	4.3	150,000	68,000	2,254	15.4	8.18	208
	SPH-HP 2250	322	98.1	17	0.4	14	4.3	150,000	68,000	3,110	21.4	8.28	210
	SPH-HP 2500	327	99.7	16	0.4	14	4.3	150,000	68,000	4,021	27.7	8.38	213
7 ¾ 175	SPH 800	411	125.3	13	0.3	17	5.2	230,000	104,300	187	1.3	9.55	243
	SPH 1000	417	126.9	13	0.3	17	5.2	230,000	104,300	338	2.3	9.65	245
	SPH 1250	424	129.1	13	0.3	17	5.2	230,000	104,300	614	4.2	9.79	249
	SPH 1500	431	131.2	13	0.3	17	5.2	230,000	104,300	997	6.9	9.93	252
	SPH 1800	439	133.8	12	0.3	17	5.2	230,000	104,300	1,614	11.1	10.11	257
8 200	SPH 500	437	133.2	12	0.3	17	5.2	250,000	113,400	49	0.3	9.83	250
	SPH 800	447	136.1	12	0.3	17	5.2	250,000	113,400	186	1.3	10.01	254
	SPH 1000	453	137.9	12	0.3	17	5.2	250,000	113,400	337	2.3	10.13	257
	SPH-HP 1250	424	129.1	13	0.3	17	5.2	250,000	113,400	614	4.2	10.21	259
	SPH-HP 1500	431	131.2	13	0.3	17	5.2	250,000	113,400	997	6.9	10.35	263
	SPH-HP 1750	438	133.5	12	0.3	17	5.2	250,000	113,400	1,533	10.6	10.51	267
	SPH-HP 2000	445	135.6	12	0.3	17	5.2	250,000	113,400	2,157	14.9	10.65	271
10 250	SPH 400 <sup>3</sup>	501	152.5	11	0.3	19	5.8	290,000	131,457	24	0.2	11.14	283
	SPH 500	505	153.8	11	0.3	19	5.8	290,000	131,457	49	0.3	11.19	284
	SPH 800	515	157.0	11	0.3	19	5.8	290,000	131,457	179	1.2	11.39	289

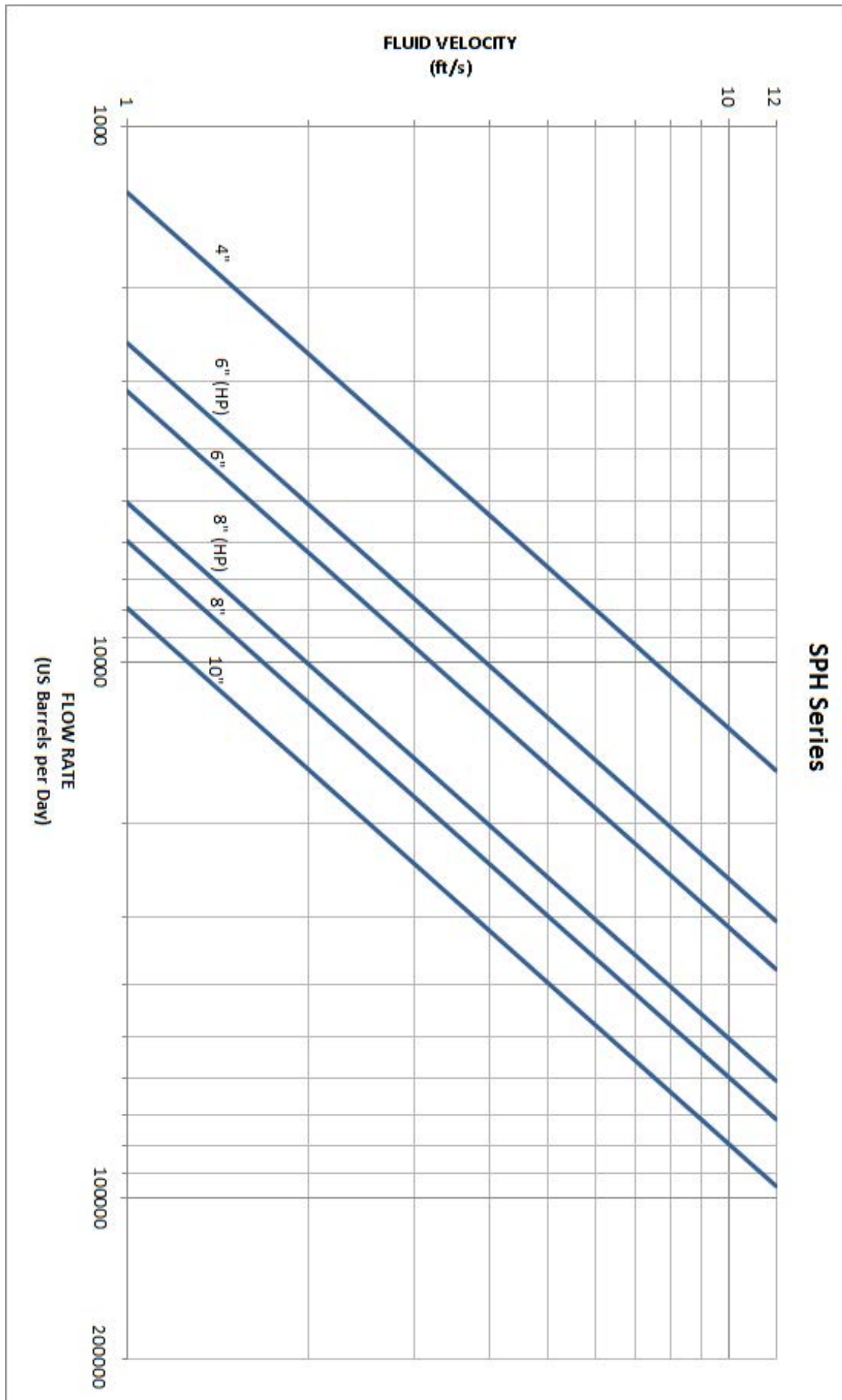
1. Quasi-steady

2. Absolute minimum outside diameter; that can be factory ground and still maintain static pressure rating.

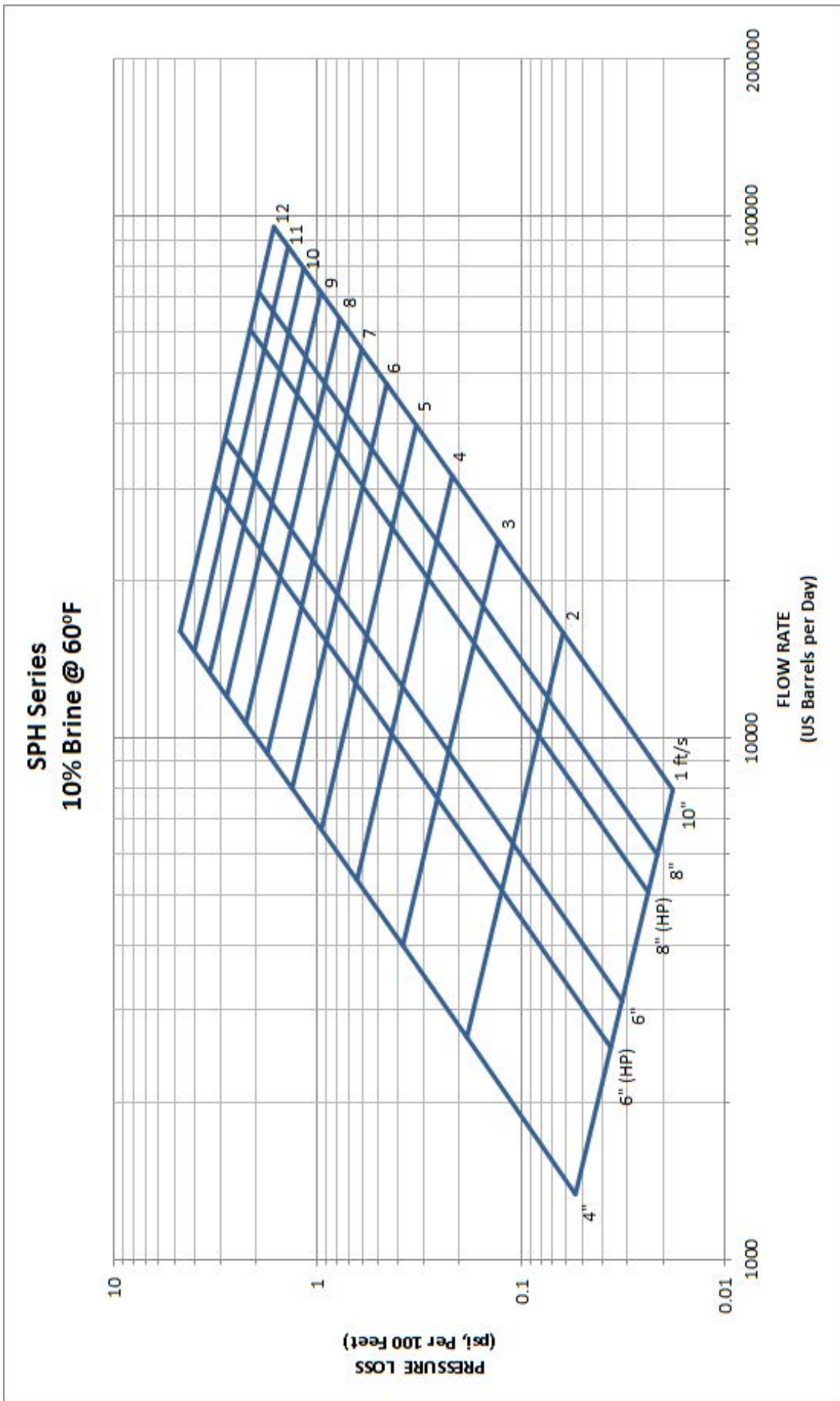
Additional pressure ratings available on all sizes. Consult your distributor or Centron Engineering for details.

# Flow Rate vs. Fluid Velocity

INTEGRAL JOINT SURFACE PIPE AND TUBING



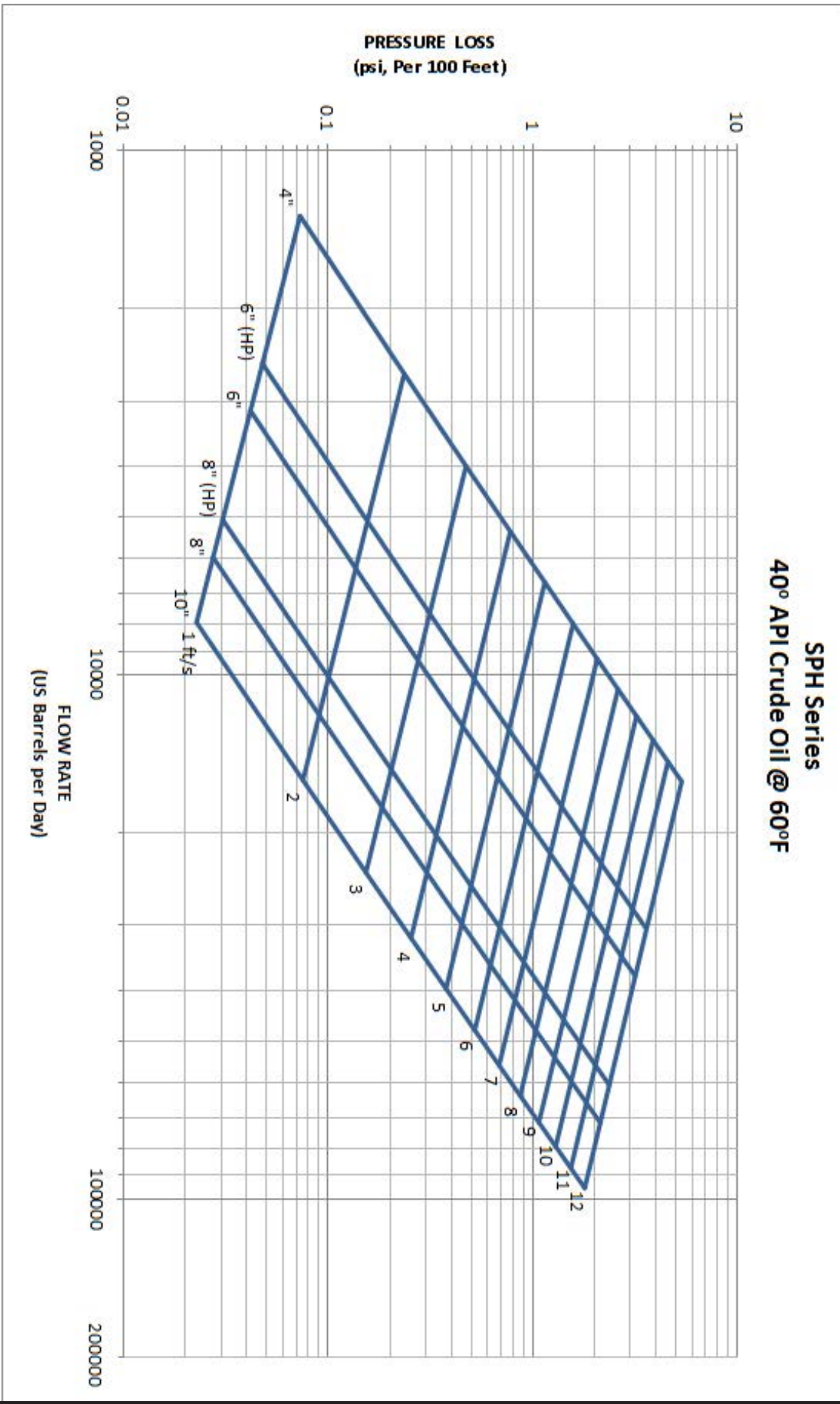
Note: If flow velocity is to be more than 12 ft./sec. contact FGS



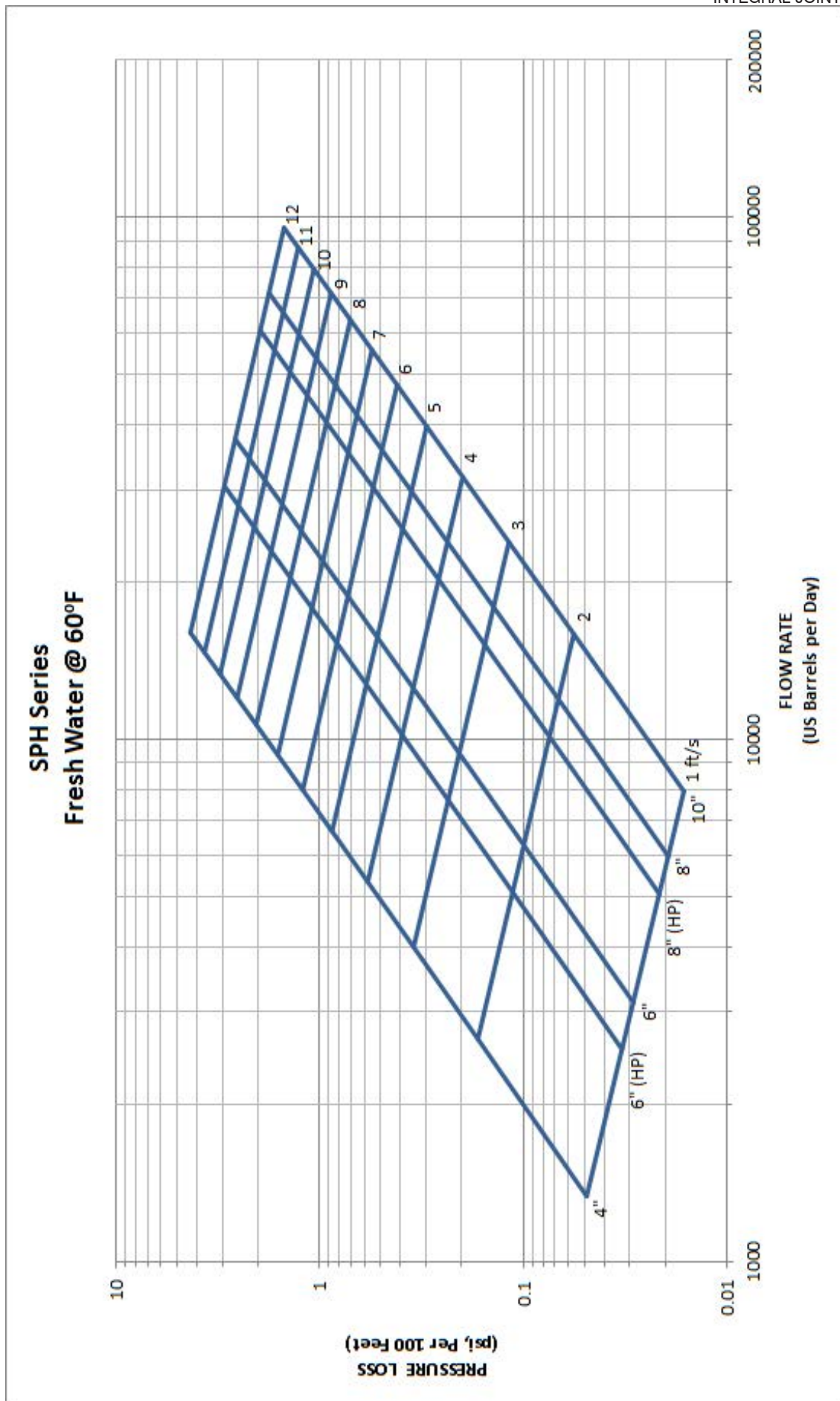
Note: If flow velocity is to be more than 12 ft./sec. contact FGS

40° API Crude Oil Pressure Loss @ 60°F (16°C)

INTEGRAL JOINT SURFACE PIPE



Note: If flow velocity is to be more than 12 ft./sec. contact FGS



Note: If flow velocity is to be more than 12 ft./sec. contact FGS

## General Technical Data

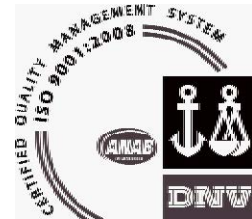
<i>Mill Test Pressure:</i>	Operating Pressure x 1.25
<i>Axial Modulus of Elasticity:</i>	2.35 x 10 <sup>6</sup> PSI (1.62 x 10 <sup>4</sup> MPa)
<i>Hoop Modulus of Elasticity:</i>	3.59 x 10 <sup>6</sup> PSI (2.48 x 10 <sup>4</sup> MPa)
<i>Density:</i>	0.07 lbs/in <sup>3</sup> (Sp. Gr.= 1.95)
<i>Coefficient of Thermal Expansion:</i>	1.0 x 10 <sup>-5</sup> in/in/°F (2.57 x 10 <sup>-5</sup> m/m/°C)
<i>Hazen-Williams Flow Factor:</i>	150
<i>Poisson's Ratio (Hoop/Tensile):</i>	0.60
<i>Poisson's Ratio (Axial Tensile):</i>	0.45

Pipe Capacity					
Size		Inside Diameter		Capacity	
in	mm	in	mm	bbl/1000 ft	m <sup>3</sup> /km
4	100	3.98	101.1	15.4	8.0
6	150	5.50	139.7	29.4	15.3
6	150	6.10	154.9	36.2	18.9
7 <sup>3</sup> / <sub>4</sub>	195	7.75	196.9	58.4	30.4
8	200	7.75	196.9	58.4	30.4
8	200	8.42	213.9	68.9	35.9
10	255	9.72	246.9	91.8	47.9



15LR-0007  
15HR-0003

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