

543Q-7 Quintuplex Plunger Pump

Specifications

Pump Size:

maximum plunger size x stroke length, in.(mm):
5.750 x 7.125 (146.05 x 180.975)

Rated BHP (kW) at 280 RPM: 543 (405)

Rated plunger load, pounds (kg): 19400(8800)

Maximum discharge pressure: psi (kPa)

"XL" model: 1220 (8410)

"L" model: 2169 (14952)

"M" model: 3600 (24821)

"H" model: 6170 (42542)

Crankshaft extension:

Diameter, in.(mm): 5.500 (139.7)

Length, in.(mm): 12.125 (308.0)

Keyway width x depth, in.(mm):

1-1/4 x 5/8 (31.8 x 15.9)

Maximum recommended sheave diameter,

in.(mm): 71 (1803.4)

For larger sizes: **Contact Factory**

Oil Capacity, gallons (L)

Crankcase: 25 (94.63)

Weight, pump only on

wood shipping skids, pounds (kg): 9648 (4375)

Weight varies with pump model

Standard Materials for Fluid Ends:

"XL" model

Cast Duplex Stainless Steel

Cast Carbon Steel

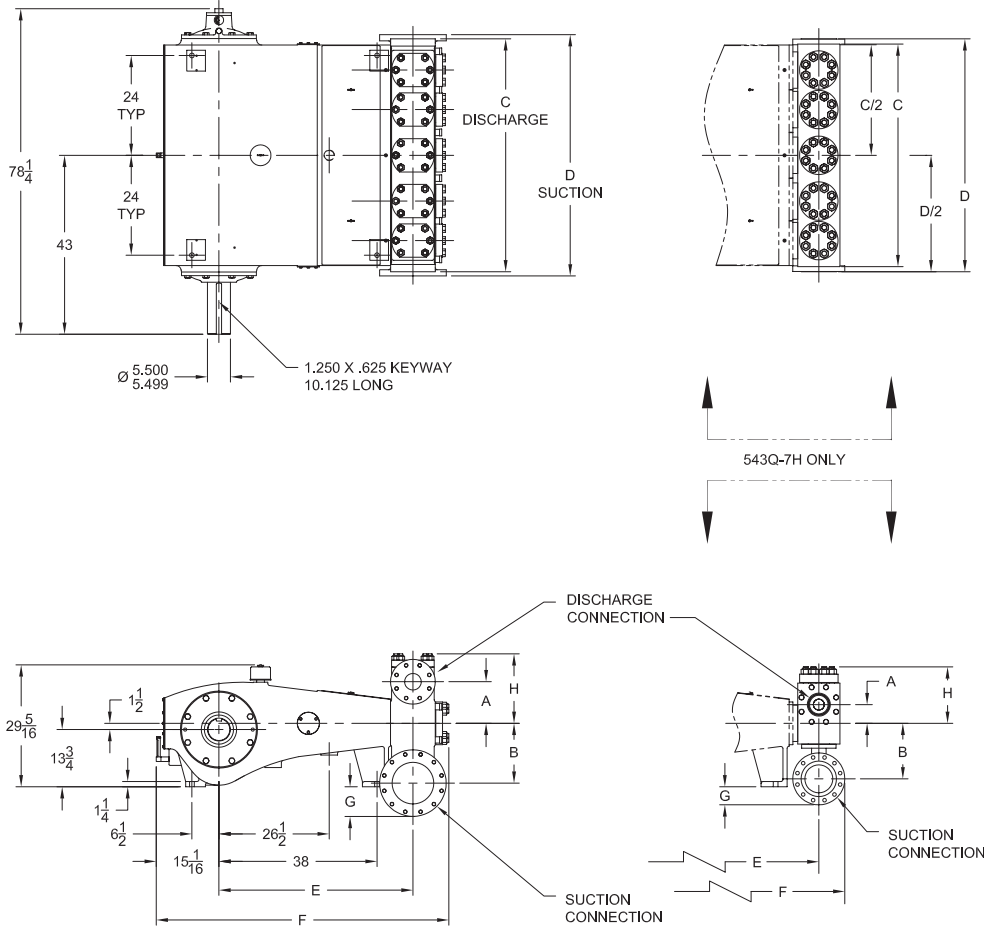
"L" & "M" model

Cast Duplex Stainless Steel

Forged/Plate Carbon Steel

"H" model

Forged 15-5 Stainless Steel



Pump Model	Flange Connections		Dimensions (Inches)							
	Discharge Connection Sizes	Suction Connection Sizes	A	B	C	D	E	F	G	H
543Q-7XL	4 (101.6)-ANSI 600 FF	10 (254.0)-ANSI 150 FF	10	14 3/8	56	58	46 5/8	70 5/16	7 1/8	16 11/16
543Q-7AL	4 (101.6)-ANSI 900 FF	8 (203.2)-ANSI 150 FF	8 5/8	11 7/8	55	55	46 3/4	71 3/16	3 3/8	15 1/4
543Q-7AM	3 (76.2)-ANSI 1500 FF	6 (152.4)-ANSI 300 FF	6 7/8	9	57	57	46 3/4	71 1/2	0	13 13/16
543Q-7H	3 (76.2)-ANSI 2500 RTJ	6 (152.4)-ANSI 300 RF	4 1/2	13 5/16	53 1/2	56	48 3/8	68 1/2	4 5/16	13 9/16

543Q-7 Quintuplex Plunger Pump

Performance Data

PUMP	English Units						100 * RPM		150 RPM		175 RPM		200 RPM		225 RPM		280 RPM	
	Plunger Dia. In.	Plunger Area Sq. In.	BPD per RPM	GPM per RPM	Max. Press. PSI	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	
																		BPD
543Q-7XL (HP600XL)	5.750	25.9672	137.3033	4.0047	747	13731	400.5	20596	600.7	24029	700.8	27461	800.9	30894	901.1	38445	1121.3	
	5.500	23.7583	125.6235	3.6640	817	12563	366.4	18844	549.6	21985	641.2	25125	732.8	28266	824.4	35175	1025.9	
	5.250	21.6475	114.4627	3.3385	896	11447	333.8	17170	500.8	20031	584.2	22893	667.7	25755	751.2	32050	934.8	
	5.000	19.6349	103.8211	3.0281	988	10383	302.8	15574	454.2	18169	529.9	20765	605.6	23360	681.3	29070	847.9	
	4.750	17.7205	93.6985	2.7329	1095	9370	273.3	14055	409.9	16398	478.3	18740	546.6	21083	614.9	26236	765.2	
543Q-7L (HP600AL)	4.500	15.9043	84.0951	2.4528	1220	8410	245.3	12615	367.9	14717	429.2	16820	490.6	18922	551.9	23547	686.8	
	4.250	14.1862	75.0107	2.1878	1368	7502	218.8	11252	328.2	13127	382.9	15003	437.6	16878	492.3	21003	612.6	
	4.125	13.3640	70.6632	2.0610	1452	7067	206.1	10600	309.2	12367	360.7	14133	412.2	15900	463.7	19786	577.1	
	4.000	12.5664	66.4455	1.9380	1544	6645	193.8	9967	290.7	11628	339.1	13290	387.6	14951	436.0	18605	542.6	
	3.875	11.7932	62.3575	1.8188	1645	6236	181.9	9354	272.8	10913	318.3	12472	363.8	14031	409.2	17461	509.3	
	3.750	11.0447	58.3993	1.7033	1757	5840	170.3	8760	255.5	10220	298.1	11680	340.7	13140	383.2	16352	476.9	
	3.625	10.3206	54.5709	1.5917	1880	5458	159.2	8186	238.7	9550	278.5	10915	318.3	12279	358.1	15280	445.7	
	3.500	9.6211	50.8723	1.4838	2016	5088	148.4	7631	222.6	8903	259.7	10175	296.8	11447	333.8	14245	415.5	
	3.375	8.9462	47.3035	1.3797	2169	4731	138.0	7096	207.0	8279	241.4	9461	275.9	10644	310.4	13245	386.3	
	543Q-7M (HP600AM)	3.250	8.2958	43.8644	1.2794	2339	4387	127.9	6580	191.9	7677	223.9	8773	255.9	9870	287.9	12283	358.2
3.125		7.6699	40.5551	1.1829	2529	4056	118.3	6084	177.4	7098	207.0	8112	236.6	9125	266.1	11356	331.2	
3.000		7.0686	37.3756	1.0901	2745	3738	109.0	5607	163.5	6541	190.8	7476	218.0	8410	245.3	10466	305.2	
2.875		6.4918	34.3258	1.0012	2988	3433	100.1	5149	150.2	6008	175.2	6866	200.2	7724	225.3	9612	280.3	
2.750		5.9396	31.4059	0.9160	3266	3141	91.6	4711	137.4	5497	160.3	6282	183.2	7067	206.1	8794	256.5	
2.500		4.9087	25.9553	0.7570	3600	2596	75.7	3894	113.6	4543	132.5	5192	151.4	5840	170.3	7268	212.0	
2.250		3.9761	21.0238	0.6132	3600	2103	61.3	3154	92.0	3680	107.3	4205	122.6	4731	138.0	5887	171.7	
543Q-7H (HP600H)		2.125	3.5466	18.7527	0.5470	5470	1876	54.7	2813	82.0	3282	95.7	3751	109.4	4220	123.1	5251	153.1
	2.000	3.1416	16.6114	0.4845	6175	1662	48.4	2492	72.7	2907	84.8	3323	96.9	3738	109.0	4652	135.7	
	1.875	2.7612	14.5998	0.4258	7026	1460	42.6	2190	63.9	2555	74.5	2920	85.2	3285	95.8	4088	119.2	
	1.750	2.4053	12.7181	0.3709	6170	1272	37.1	5214	55.6	2226	64.9	2544	74.2	2862	83.5	3562	103.9	
Brake Horsepower Required						194	291	340	388	436	543							

PUMP	Metric Units						100 * RPM		150 RPM		175 RPM		200 RPM		225 RPM		280 RPM	
	Plunger Dia. mm	Plunger Area cm ²	M ³ /Hr per RPM	L/Sec. per RPM	Max. Press. kPa	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	M ³ /Hr	L/Sec.	
																		M ³ /Hr
543Q-7XL (HP600XL)	146	167.530	0.9095	0.2527	5151	90.9	25.3	136.4	37.9	159.2	44.2	181.9	50.5	204.6	56.8	254.6	70.7	
	140	153.279	0.8321	0.2312	5630	83.2	23.1	124.8	34.7	145.6	40.5	166.4	46.2	187.2	52.0	233.0	64.7	
	133	139.661	0.7582	0.2106	6179	75.8	21.1	113.7	31.6	132.7	36.9	151.6	42.1	170.6	47.4	212.3	59.0	
	127	126.677	0.6877	0.1910	6812	68.8	19.1	103.2	28.7	120.3	33.4	137.5	38.2	154.7	43.0	192.6	53.5	
	121	114.326	0.6206	0.1724	7548	62.1	17.2	93.1	25.9	108.6	30.2	124.1	34.5	139.6	38.8	173.8	48.3	
543Q-7L (HP600AL)	114	102.608	0.5570	0.1547	8410	55.7	15.5	83.6	23.2	97.5	27.1	111.4	30.9	125.3	34.8	156.0	43.3	
	108	91.524	0.4969	0.1380	9429	49.7	13.8	74.5	20.7	86.9	24.2	99.4	27.6	111.8	31.1	139.1	38.6	
	105	86.219	0.4681	0.1300	10009	46.8	13.0	70.2	19.5	81.9	22.8	93.6	26.0	105.3	29.3	131.1	36.4	
	102	81.073	0.4401	0.1223	10644	44.0	12.2	66.0	18.3	77.0	21.4	88.0	24.5	99.0	27.5	123.2	34.2	
	98	76.085	0.4130	0.1147	11342	41.3	11.5	62.0	17.2	72.3	20.1	82.6	22.9	92.9	25.8	115.7	32.1	
	95	71.256	0.3868	0.1075	12111	38.7	10.7	58.0	16.1	67.7	18.8	77.4	21.5	87.0	24.2	108.3	30.1	
	92	66.584	0.3615	0.1004	12960	36.1	10.0	54.2	15.1	63.3	17.6	72.3	20.1	81.3	22.6	101.2	28.1	
	89	62.072	0.3370	0.0936	13903	33.7	9.4	50.5	14.0	59.0	16.4	67.4	18.7	75.8	21.1	94.4	26.2	
	86	57.717	0.3133	0.0870	14952	31.3	8.7	47.0	13.1	54.8	15.2	62.7	17.4	70.5	19.6	87.7	24.4	
	543Q-7M (HP600AM)	83	53.521	0.2905	0.0807	16124	29.1	8.1	43.6	12.1	50.8	14.1	58.1	16.1	65.4	18.2	81.4	22.6
79		49.483	0.2686	0.0746	17439	26.9	7.5	40.3	11.2	47.0	13.1	53.7	14.9	60.4	16.8	75.2	20.9	
76		45.604	0.2476	0.0688	18923	24.8	6.9	37.1	10.3	43.3	12.0	49.5	13.8	55.7	15.5	69.3	19.3	
73		41.883	0.2274	0.0632	20604	22.7	6.3	34.1	9.5	39.8	11.1	45.5	12.6	51.2	14.2	63.7	17.7	
70		38.320	0.2080	0.0578	22520	20.8	5.8	31.2	8.7	36.4	10.1	41.6	11.6	46.8	13.0	58.2	16.2	
64		31.669	0.1719	0.0478	24821	17.2	4.8	25.8	7.2	30.1	8.4	34.4	9.6	38.7	10.7	48.1	13.4	
57		25.652	0.1393	0.0387	24821	13.9	3.9	20.9	5.8	24.4	6.8	27.9	7.7	31.3	8.7	39.0	10.8	
543Q-7H (HP600H)	54	22.881	0.1242	0.0345	37715	12.4	3.5	18.6	5.2	21.7	6.0	24.8	6.9	27.9	7.8	34.8	9.7	
	51	20.268	0.1100	0.0306	42577	11.0	3.1	16.5	4.6	19.3	5.3	22.0	6.1	24.8	6.9	30.8	8.6	
	48	17.814	0.0967	0.0269	48443	9.7	2.7	14.5	4.0	16.9	4.7	19.3	5.4	21.8	6.0	27.1	7.5	
	44	15.518	0.0842	0.0234	42542	8.4	2.3	12.6	3.5	14.7	4.1	16.8	4.7	19.0	5.3	23.6	6.6	
Kilowatts Required						145	217	254	289	325	405							

Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency. *Operation below 150 RPM requires an "optional" externally-mounted auxiliary lubrication system.

The information and data on this sheet is accurate to the best of our knowledge and belief, but are intended for general information only. Applications suggested for the materials are described only to help readers make their own evaluations and decisions, and are neither guarantees nor to be construed as express or implied warranties of suitability for these or other applications. National Oilwell makes no warranty either express or implied beyond that stipulated in National Oilwell Standard Terms and Conditions of Sale.

Authorized Distributor:



NATIONAL OILWELL

www.natoil.com / customer.service@natoil.com

10000 Richmond, Houston, Texas 77042

(713)346-7500 (phone) • (713)346-7366 (fax)