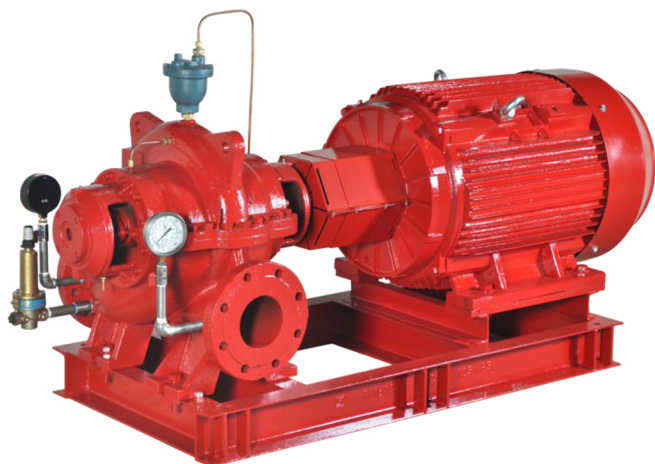


Horizontal Split Case Fire Pumps



-Grand Pumps offers FWHC series state-of-the-art fire pumps with diesel engine or electric motor driven, horizontal split case pump.

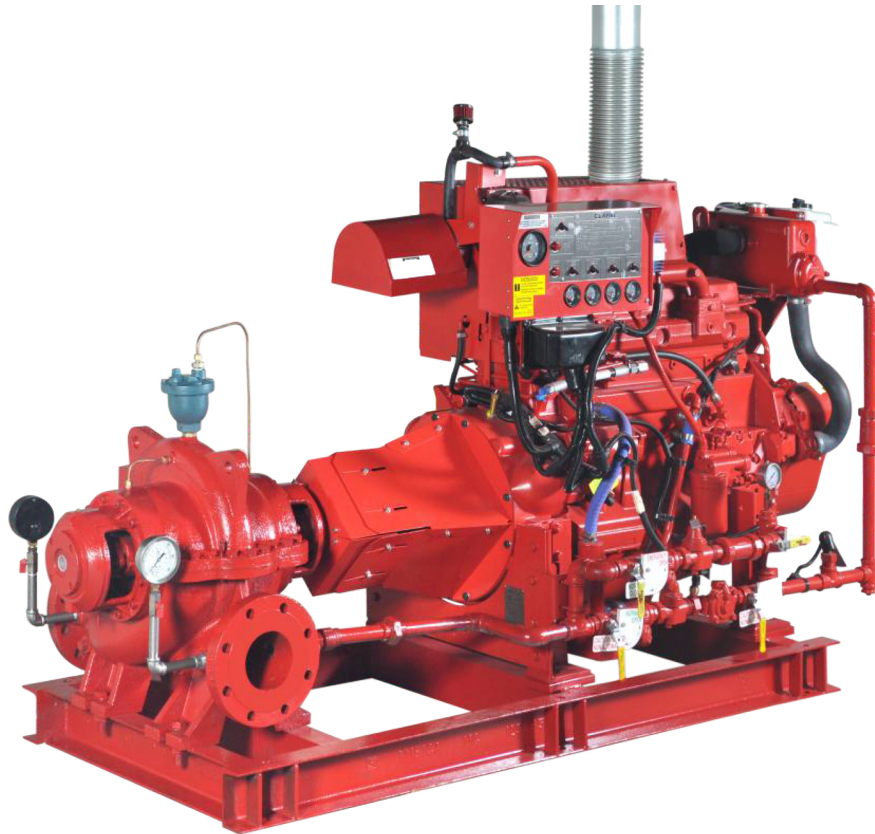
-These pumps are typically used in fire-fighting applications for supplying water to fire hose reels, fire hydrants or sprinkler systems.

-Pumps have a discharge range from 450 to 3000 USgpm and the head range from 4.2 to 23 bar.

There fire pumps typically consist of the following equipments:

- Horizontal Split Case pump.
- Electric motor or Diesel Engine
- Cooling system for Diesel Engine
- Fuel system for Diesel Engine
- Battery for Diesel Engine electric start
- Exhaust system for Diesel Engine
- Diesel Engine / Electric Motor Fire pump controller
- Suction and Discharge pressure gauges
- Air relief valve
- Casing Relief Valve for Motor Fire Pump
- Base frame

-All above equipments except fuel supply tank and fire pump controller are mounted on a common base frame.



Applications

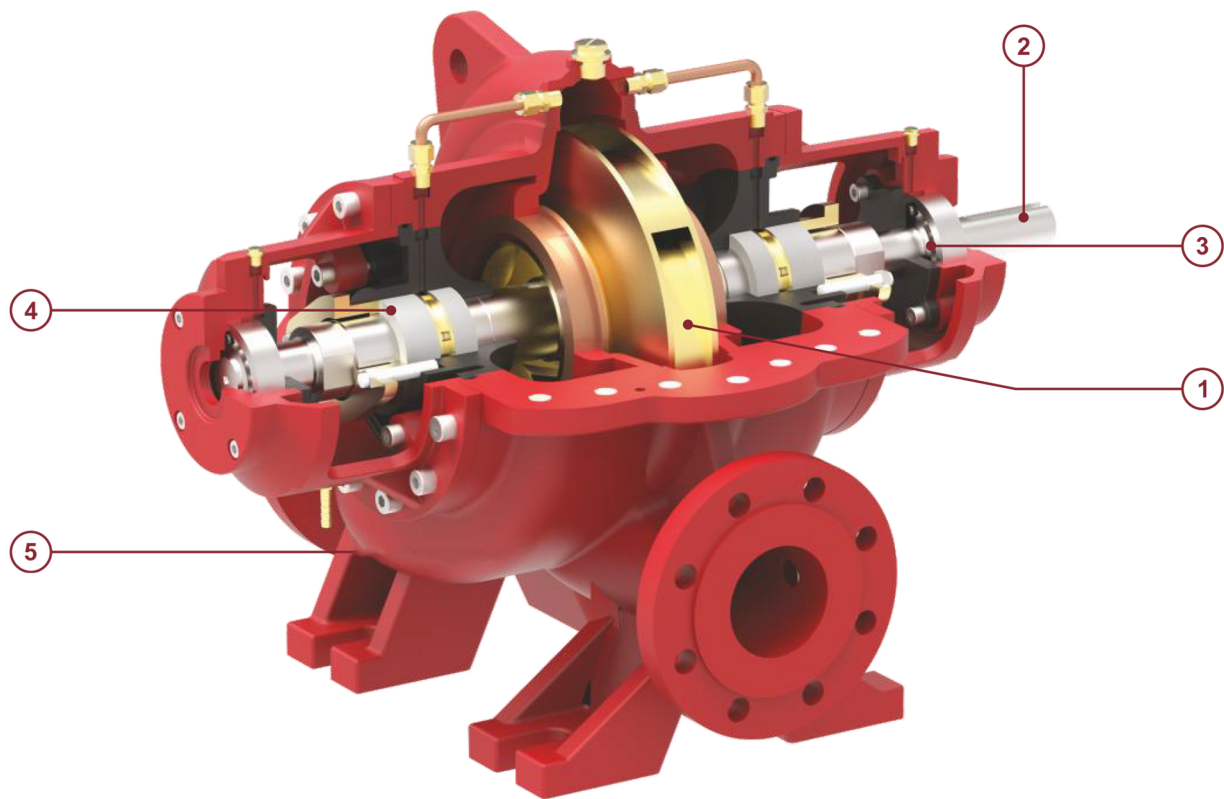
Grand fire pumps are designed for fire-fighting purposes, providing water to fire hose reels, hydrants, and sprinkler systems in fire-prone areas. Typical applications include:

- High-rise buildings and commercial complexes
- Oil terminals
- Warehouses and storage facilities
- Airports and ports
- Petrochemical industries and gas plants
- Marine operations
- Chemical industries
- Power and transformer stations
- Fireworks industries
- Manufacturing plants
- Onshore oil and gas facilities
- Jetties

Features

These pumps offer:

- A state-of-the-art fire pumping system design
- UL listed, FM approved, and NFPA-20 compliant
- Available with diesel engine or electric motor drives
- Rugged construction
- Generous water passages
- Automatic air relief valve
- Efficient operation
- Lower initial costs
- Reduced installation time and cost
- Simplified piping design
- Ideal for space-saving installations and retrofit applications
- Easy access to all working parts
- Ease of maintenance
- Single-source unit responsibility



1 - Impeller & Casing

- Minimal axial thrust is achieved with a double-entry impeller.
- The impeller is dynamically balanced to G6.3 balance quality, per ISO 1940-1 standards.
- Both the impeller and casing are designed with advanced CFD tools for optimal performance.

2 - Shaft

- Heavy-duty stainless steel shaft, fully sealed and dry to prevent corrosion.
- Short, rigid design with minimal vibrations.
- Replaceable protective sleeves for the shaft.
- Threads are not exposed to the pump medium, ensuring a long, corrosion-free operating life.
- Assembly requires no adjustments.

3 - Bearing

- Heavy-duty, grease-lubricated antifriction bearings ensure a long service life.
- Open gland design provides ample space for maintenance activities.

4 - Seal

- Soft-packed stuffing boxes that are asbestos-free.

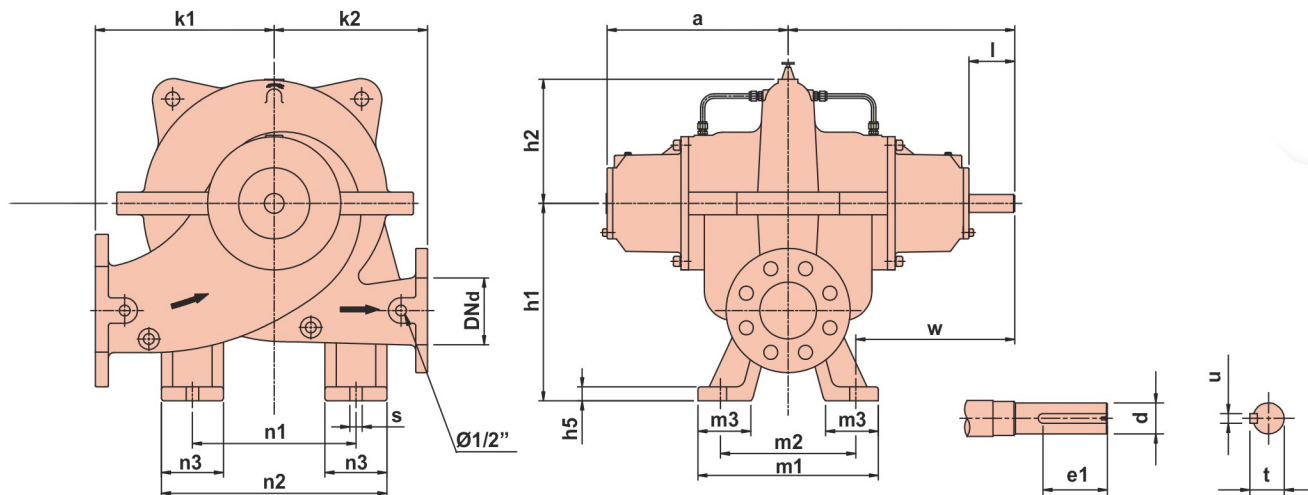
5 - Casing

- In-line axially split design allows removal of the entire impeller shaft assembly without detaching pipes and motor.
- Short bearing distance.
- Leak-proof, thanks to a compact joint flange with long pre-stressed bolts.
- Supports counter-rotation with similar parts.
- Easy installation with self-aligning upper casing.
- Flange drilled to ASME B16.42 class 300.
- Smooth internal surface with CED coating for enhanced corrosion protection.
- Replaceable wear ring safeguards the casing and impeller clearances.
- Heavy-duty casing designed for high working pressure.

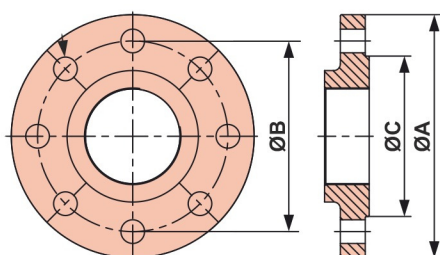


GRAND PUMPS
— COMPANY —

Flange Dimensions



Model	DNs	DNd	k1	k2	v	n1	n2	n3	a	f	h1	h2	h5	s	w	m1	m2	m3	d	l	e1	u	t
FWHC 125-100-250	125	100	310	250	170	250	350	100	323	402	320	199	25	22	282	320	240	95	32	81	65	10	35.3
FWHC 125-100-400	125	100	375	325	210	370	490	120	334	434	365	260	25	22	314	320	240	87	38	102	85	10	41
FWHC 150-125-315	150	125	350	300	195	300	440	140	333	434	375	244	25	22	309	350	250	99	38	102	85	10	41
FWHC 200-150-250	200	150	385	325	190	350	490	140	354	451	390	233	25	24	298	370	305	80	38	97	85	10	41
FWHC 250-200-250	250	200	450	325	280	360	495	135	402	499	525	281	28	24	299	500	400	96	38	97	85	10	41
FWHC 250-200-315	250	200	450	375	235	430	570	140	408	513	465	287	28	24	333	460	360	105	48	105.5	93	14	52
FWHC 250-200-400	250	200	485	420	230	460	604	144	409	515	465	313	28	24	365	400	300	97	55	106	94	16	59
FWHC 250-200-650	250	200	600	600	325	650	810	160	434	570	575	405	32	24	382	453	375	119	75	135	135	20	79.5
FWHC 300-250-500	300	250	600	575	275	650	835	185	495	634	550	379	30	28	424	520	420	120	85	140	130	22	89
FWHC 300-250-650	300	250	700	700	320	860	1020	160	458	597	590	415	32	24	417	460	360	120	85	140	135	22	89



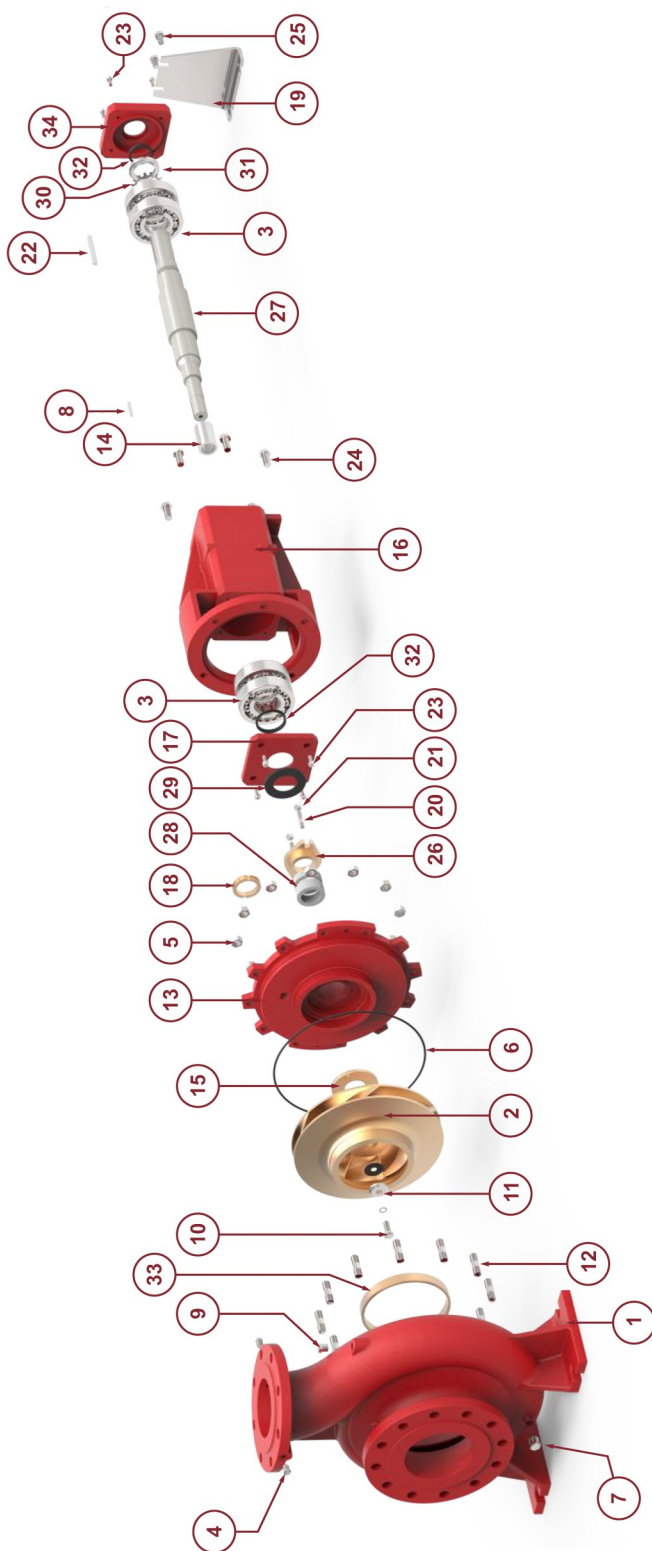
Model	Suction				Discharge			
	ØA	ØB	ØC	ØD x Nos. of holes	ØA	ØB	ØC	ØD x Nos. of holes
FWHC 125-100-250	280	235	211	Ø7/8" x 8	255	200	176	Ø7/8" x 8
FWHC 125-100-400	280	235	211	Ø7/8" x 8	255	200	176	Ø7/8" x 8
FWHC 150-125-315	320	270	246	Ø7/8" x 12	280	235	211	Ø7/8" x 8
FWHC 200-150-250	380	330	303	Ø1"X12	320	270	246	Ø7/8"X12
FWHC 250-200-250	445	387	357	Ø1-1/8"X16	380	330	303	Ø1"X12
FWHC 250-200-315	445	387	357	Ø1-1/8"X16	380	330	303	Ø1"X12
FWHC 250-200-400	445	387	357	Ø1-1/8"X16	380	330	303	Ø1"X12
FWHC 250-200-650	445	387	357	Ø1-1/8"X16	380	330	303	Ø1"X12
FWHC 300-250-500	520	451	418	Ø1-1/4"x16	445	387	350	Ø1-1/8"x16
FWHC 300-250-650	520	451	418	Ø1-1/4"x16	445	387	350	Ø1-1/8"x16

GRAND PUMPS LLC
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Exploded View



Part no.	Part name	Part no.	Part name	Part no.	Part name	Part no.	Part name
1	Casing	11	Impeller Washer	21	Hex Nut	31	Ring Nut
2	Impeller	12	Stud	22	Key	32	V-seal
3	Ball Bearing	13	Back Cover	23	Cap Screw	33	Wear Ring
4	Plug	14	Shaft Sleeve	24	Hex Bolt	34	Bearing Cover (DE)
5	Hex Nut	15	Gland Cover	25	Hex Bolt		
6	O' Ring	16	Bearing Bracket	26	Gland		
7	Plug	17	Bearing Cover (NDE)	27	Shaft		
8	Key	18	Lentern Ring	28	Graphite Packing		
9	Plug	19	Foot	29	Water Thrower		
10	Hex Bolt	20	Stud	30	Locking Washer		

Approved Fire Pump Models

RATED CAPACITY- 400 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 125-100-400	245-336	16.8-23.16	245-335	16.89-23.09	2900	5	4	1

RATED CAPACITY- 450 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
2	FWHC 125-100-250	71-131	4.89-9	75-136	5.1-9.3	2900	5	4	1
3	FWHC125-100-400	244-335	16.8-23.0	244-333	16.82-22.95	2900	5	4	1

RATED CAPACITY- 500 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 125-100-250	71-131	4.89-9	74-135	5.10-9.3	2900	5	4	1
2	FWHC 125-100-400	243-334	16.75-23.0	243-332	16.75-22.89	2900	5	4	1
3	FWHC 150-125-315	131-214	9-14.75	131-214	9-14.75	2900	6	5	1

RATED CAPACITY- 750 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 125-100-250	65-130	4.4-8.96	66-132	4.5-9.10	2900	5	4	1
2	FWHC 125-100-400	236-323	16.27-22.27	234-321	16.13-22.13	2900	5	4	1
3	FWHC150-125-315	129-213	8.8-14.68	129-212	8.8-14.61	2900	6	5	1

RATED CAPACITY- 1000 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 200-150-250	80-142	5.51-9.79	79-141	5.44-9.72	2900	8	6	1
2	FWHC 150-125-315	127-210	8.75-14.4	126-209	8.68-14.4	2900	6	5	1

Approved Fire Pump Models

RATED CAPACITY- 1250 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 200-150-250	78-140	5.37-9.65	77-140	5.30 -9.65	2900	8	6	1
2	FWHC 150-125-315	121-205	8.34-14.13	119-204	8.20-14	2900	6	5	1

RATED CAPACITY- 1500 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 200-150-250	75-139	5.17-9.58	73-137	5.03-9.44	2900	8	6	1
2	FWHC 250-200-315	113-210	7.7-14.4	113-209	7.79-14.41	2900	10	8	1
3	FWHC 250-200-400	135-206	9.30-14.2	135-203	9.30-13.99	2350	10	8	1
4	FWHC 250-200-650	184-245	12.6-16.8	185-244	12.75-16.82	1470	10	8	1

RATED CAPACITY- 2000 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 250-200-250	80-133	5.51-9.17	79-131	5.44-9.03	2900	10	8	1
2	FWHC 250-200-315	109-209	7.5-14.41	109-209	7.51-14.41	2900	10	8	1
3	FWHC 250-200-315	72-133	4.96-9.17	70-131	4.82-9.03	2350	10	8	1
4	FWHC 250-200-400	132-204	9.10-14.06	131-202	9.03-13.92	2350	10	8	1
5	FWHC 250-200-650	180-242	12.4-16.6	180-241	12.41-16.61	1470	10	8	1

RATED CAPACITY- 2500 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 250-200-400	126-200	8.68-13.78	126-199	8.68-13.72	2350	10	8	1
2	FWHC 300-250-500	93-152	6.4-10.4	93-152	6.41-10.48	1470	12	10	1
3	FWHC 300-250-650	152-224	10.4-15.4	151-223	10.41-15.37	1470	12	10	1

RATED CAPACITY- 3000 US GPM									
Sr. No.	Pump Model	UL Listed Pressure		FM Approved Pressure		Rated Speed (rpm)	Suction Inlet Dia. (inch)	Discharge Outlet Dia. (inch)	Stage(s)
		(psi)	(bar)	(psi)	(bar)				
1	FWHC 300-250-500	90-151	6.20-10.4	89-151	6.13-10.41	1470	12	10	1

Horizontal Split Case Quick Selection guide

Rated Capacity in GPM / (LPM)	Pressure in PSI(Bar)	Electric & Diesel Engine Pump	Rated Pressure in Bar	Jockey Flow in USgpm	Jockey Pump Model	Electric Motor HP @ 2900 RPM	Diesel Engine HP @ 3000 RPM	Jockey Pump HP @ 2900
400(1514)	245-336 (16.8923.16)	FWHC 125-100-400	17	20	JCR10-18	200HP	175HP	10HP
			18	20	JCR10-18	200HP	193HP	10HP
			19	20	JCR 10-20	200HP	216HP	10HP
			20	20	JCR 10-20	200HP	216HP	10HP
			21	20	JCR 10-22	200HP	253HP	10HP
			22	20	JCR 10-22	250HP	253HP	10HP
			23	22.5	JCR15-17	250HP	275HP	20HP
450 (1703)	71-131 (4.89-9)	FWHC 125-100-250	5	22.5	JCR 4-8	40 HP	45HP	2HP
			6	22.5	JCR 4-10	50 HP	60HP	3HP
			7	22.5	JCR 4-10	60 HP	60HP	3HP
			8	22.5	JCR 4-12	60 HP	71HP	3HP
			9	22.5	JCR 4-14	75 HP	83HP	4HP
450 (1703)	244-335 (16.8223.09)	FWHC 125-100-400	17	22.5	JCR 10-18	200HP	193HP	10HP
			18	22.5	JCR 10-20	200HP	216HP	10HP
			19	22.5	JCR 10-20	200HP	216HP	10HP
			20	22.5	JCR 10-22	200HP	253HP	10HP
			21	22.5	JCR 10-22	250HP	253HP	10HP
			22	22	JCR 10-22	250HP	253HP	10HP
500 (1892)	71-131 (4.89-9)	FWHC 125-100-250	5	25	JCR 4-8	40 HP	45HP	2HP
			6	25	JCR 4-10	50 HP	60HP	3HP
			7	25	JCR 4-12	60 HP	71HP	3HP
			8	25	JCR 4-14	75 HP	83HP	4HP
			9	25	JCR 4-14	75 HP	83HP	4HP
500 (1892)	131-214 (9-14.75)	FWHC 150-125-315	9	25	JCR 4-14	100 HP	115HP	4HP
			10	22.3	JCR 10-10	125 HP	130HP	5.5HP
			11	25	JCR 10-12	125 HP	145HP	5.5HP
			12	25	JCR 10-14	150 HP	175HP	7.5HP
			13	25	JCR 10-14	150 HP	175HP	7.5HP
			14	22.3	JCR 10-14	200 HP	193HP	7.5HP
			14.75	25	JCR 10-16	200 HP	216HP	7.5HP
500 (1892)	243-334 (16.7523.02)	FWHC 125-100-400	17	25	JCR10-18	200HP	216HP	10HP
			18	25	JCR 10-20	200HP	216HP	10HP
			19	25	JCR 10-20	200HP	253HP	10HP
			20	25	JCR 10-22	250HP	253HP	10HP
			21	25	JCR 10-22	250HP	253HP	10HP
			22	25	JCR15-17	250HP	275HP	20HP

Horizontal Split Case Quick Selection guide

Rated Capacity in GPM / (LPM)	Pressure in PSI(Bar)	Electric & Diesel Engine Pump	Rated Pressure in Bar	Jockey Flow in USgpm	Jockey Pump Model	Electric Motor HP @ 2900 RPM	Diesel Engine HP @ 3000 RPM	Jockey Pump HP @ 2900
750(2838)	65-130 (4.4-8.96)	FWHC 125-100-250	5	37.5	JCR 10-6	50 HP	60HP	3HP
			6	37.5	JCR 10-7	60 HP	71HP	4HP
			7	37.5	JCR 10-8	75 HP	83HP	4HP
			8	37.5	JCR 10-10	100 HP	115HP	5.5HP
			8.96	37.5	JCR 10-12	100 HP	115HP	5.5HP
750(2838)	129-213 (8.8-14.68)	FWHC 150-125-315	9	37.5	JCR 10-12	125 HP	130HP	5.5HP
			10	37.5	JCR 10-12	125 HP	145HP	5.5HP
			11	37.5	JCR 10-14	150 HP	175HP	7.5HP
			12	37.5	JCR 10-14	200 HP	193HP	7.5HP
			13	37.5	JCR 10-16	200 HP	216HP	7.5HP
			14	37.5	JCR 10-16	200 HP	216HP	7.5HP
			14.68	37.5	JCR 10-18	200 HP	253HP	10 HP
750(2838)	236-323 (16.2722.27)	FWHC 125-100-400	16.5	37.5	JCR 10-20	250HP	253HP	10HP
			17	37.5	JCR 10-20	250HP	253HP	10HP
			18	37.5	JCR10-22	250HP	275HP	10HP
			19	37.5	JCR10-22	250HP	275HP	10HP
			20	37.5	JCR15-17	250HP	300HP	20HP
1000(3785)	80-142 (5.51- 9.7)	FWHC 125-100-250	6	50	JCR 15-5	100 HP	115HP	5.5 HP
			7	50	JCR 15-6	125 HP	145HP	7.5 HP
			8	50	JCR 15-7	150 HP	175HP	7.5 HP
1000(3785)	127-210 (8.75-14.4)	FWHC 150-125-315	9	50	JCR 15-8	150 HP	175HP	10 HP
			10	50	JCR 15-8	150 HP	175HP	10 HP
			11	50	JCR 15-9	200 HP	216HP	10 HP
			12	50	JCR 15-10	200 HP	216HP	15 HP
			13	50	JCR 15-12	200 HP	253HP	15 HP
			14	50	JCR 15-12	250 HP	253HP	15 HP
1250(4732)	78-140 (5.3- 9.6)	FWHC 200-150-250	5.5	60	JCR 15-5	100 HP	115HP	5.5 HP
			6	60	JCR 15-5	100 HP	115HP	5.5 HP
			7	60	JCR 15-6	125 HP	145HP	7.5 HP
			8	60	JCR 15-7	150 HP	175HP	7.5 HP
1250(4732)	121-205 (8.34-14.13)	FWHC 150-125-315	9	60	JCR 15-8	150 HP	175HP	10 HP
			10	60	JCR 15-9	200 HP	216HP	10 HP
			11	60	JCR 15-9	200 HP	216HP	10 HP
			12	60	JCR 15-10	200 HP	253HP	15 HP
			13	60	JCR 15-12	250 HP	275HP	15 HP

Horizontal Split Case Quick Selection guide

Rated Capacity in GPM / (LPM)	Pressure in PSI(Bar)	Electric & Diesel Engine Pump	Rated Pressure in Bar	Jockey Flow in USgpm	Jockey Pump Model	Electric Motor HP @ 2900 RPM	Diesel Engine HP @ 3000 RPM	Jockey Pump HP @ 2900
1500(5678)	75-139 (8.34-14.13)	FWHC 200-150-250	5.5	75	JCR 15-5	100 HP	115HP	5.5 HP
			6	75	JCR 15-6	125 HP	145HP	7.5 HP
			7	75	JCR 15-7	150 HP	175HP	7.5 HP
			8	75	JCR 15-8	200 HP	193HP	10 HP
			9	75	JCR 15-9	200 HP	216HP	10 HP
1500(5678)	113-210 (7.814.48)	FWHC 250-200-315 Motor Driven	10	75	JCR15-10	350HP	295HP	15HP
			11	75	JCR15-10	350HP	360HP	15HP
			12	75	JCR15-12	400HP	360HP	15HP
			13	75	JCR15-12	400HP	490HP	15HP
	135-203	FWHC 250-200-400	13.99	75	JCR15-14	450HP	490HP	15HP
1500(5678)	184-245 (12.6816.89)	FWHC 250-200-650	15	75	JCR15-14	400HP	450HP	15HP
			16	75	JCR15-17	450HP	522HP	20HP
1000(3785)	80-142 (5.51-9.7)	FWHC 125-100-250	6	50	JCR 15-5	100 HP	115HP	5.5 HP
			7	50	JCR 15-6	125 HP	145HP	7.5 HP
			8	50	JCR 15-7	150 HP	175HP	7.5 HP
2000(7571)	80-133 (5.5-9.17)	FWHC 250-200-250 Motor driven	6	100	JCR20-06	200HP	210HP	10HP
			7	100	JCR20-07	250HP	240HP	10HP
	72-133 (4.96-9.17)	FWHC 250-200-315 (2350 RPM) Engine Driven	8	100	JCR20-08	250HP	275HP	15HP
			9	100	JCR20-10	300HP	300HP	15HP
2000(7571)	109-209 (7.5 -14.41)	FWHC 250-200-315 Motor Driven	10	100	JCR20-10	350HP	360HP	15HP
			11	100	JCR20-12	350HP	360HP	20HP
	131-202 (9.0 - 13.92)	FWHC 250-200-400 (2350 RPM) Engine Driven	12	100	JCR20-12	400HP	490HP	20HP
			13	100	JCR20-12	450HP	490HP	20HP
2000(7571)	180-242 (12.41-16.68)	FWHC 250-200-650 (Motor Driven) (1470 RPM)	13.9	100	JCR20-14	450HP	490HP	20HP
	131-202 (9.0 - 13.92)	FWHC 250-200-400 (2350 RPM) Engine Driven						
2000(7571)	180-242 (12.41-16.68)	FWHC 250-200-650 (1470 RPM)	15	100	JCR20-14	450HP	522HP	20HP
2500(5678)	93-152 (6.41-10.48)	FWHC 300-250-500 (1470 RPM)	6.5	6.5	JCR32-05-2	250HP	240HP	15HP
			7	7	JCR32-05-2	250HP	300HP	15HP
			8	8	JCR32-06-2	300HP	385HP	15HP

Horizontal Split Case Quick Selection guide

Rated Capacity in GPM / (LPM)	Pressure in PSI(Bar)	Electric & Diesel Engine Pump	Rated Pressure in Bar	Jockey Flow in USgpm	Jockey Pump Model	Electric Motor HP @ 2900 RPM	Diesel Engine HP @ 3000 RPM	Jockey Pump HP @ 2900
2500(5678)	93-152 (6.41-10.48)	FWHC 300-250-500 (Motor Driven) (1470 RPM)	9	125	JCR 32-06	350HP	360HP	15HP
	126-199 (8.68-13.72)	FWHC 250-200-400 (Engine Driven) (2350 RPM)	10	125	JCR 32-07-02	400HP	490HP	20HP
2500(5678)	152-224 (10.48-15.44)	FWHC 250-200-315 Motor Driven	10	75	JCR15-10	350HP	295HP	15HP
	126-199 (8.68-13.72)	FWHC 250-200-400 (Engine Driven) (2350 RPM)	12	125	JCR32-08	450HP	490HP	20HP
3000(11356)	90-151 (6.210.41)	FWHC 300-250-500 (1470 RPM)	6.5	150	JCR 32-05	250HP	300HP	15HP
			7	150	JCR 32-06-2	300HP	300HP	15HP
			8	150	JCR32-07-2	350HP	385HP	20HP
			9	150	JCR32-07	400HP	450HP	20HP
			10	150	JCR32-08	450HP	522HP	20HP