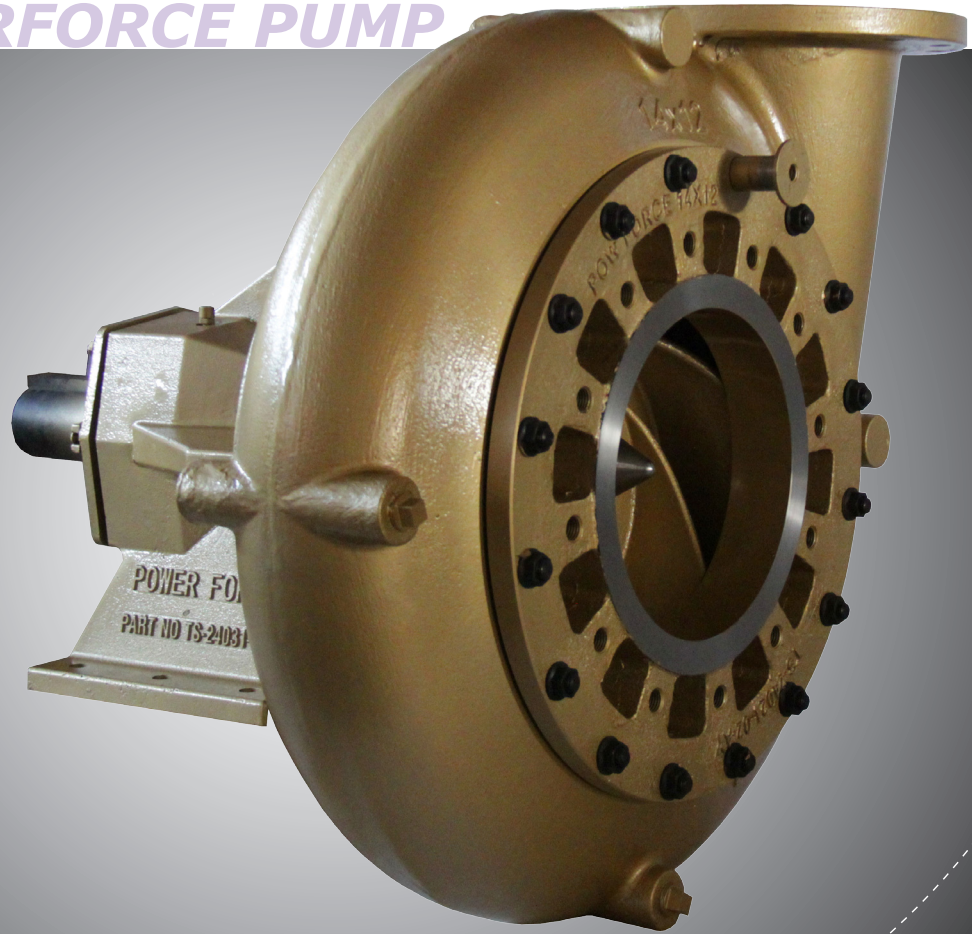




POWERFORCE PUMP
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GLOBAL SOLUTIONS

DESIGNING, MANUFACTURING AND PACKAGING FOR THE OIL & GAS INDUSTRY

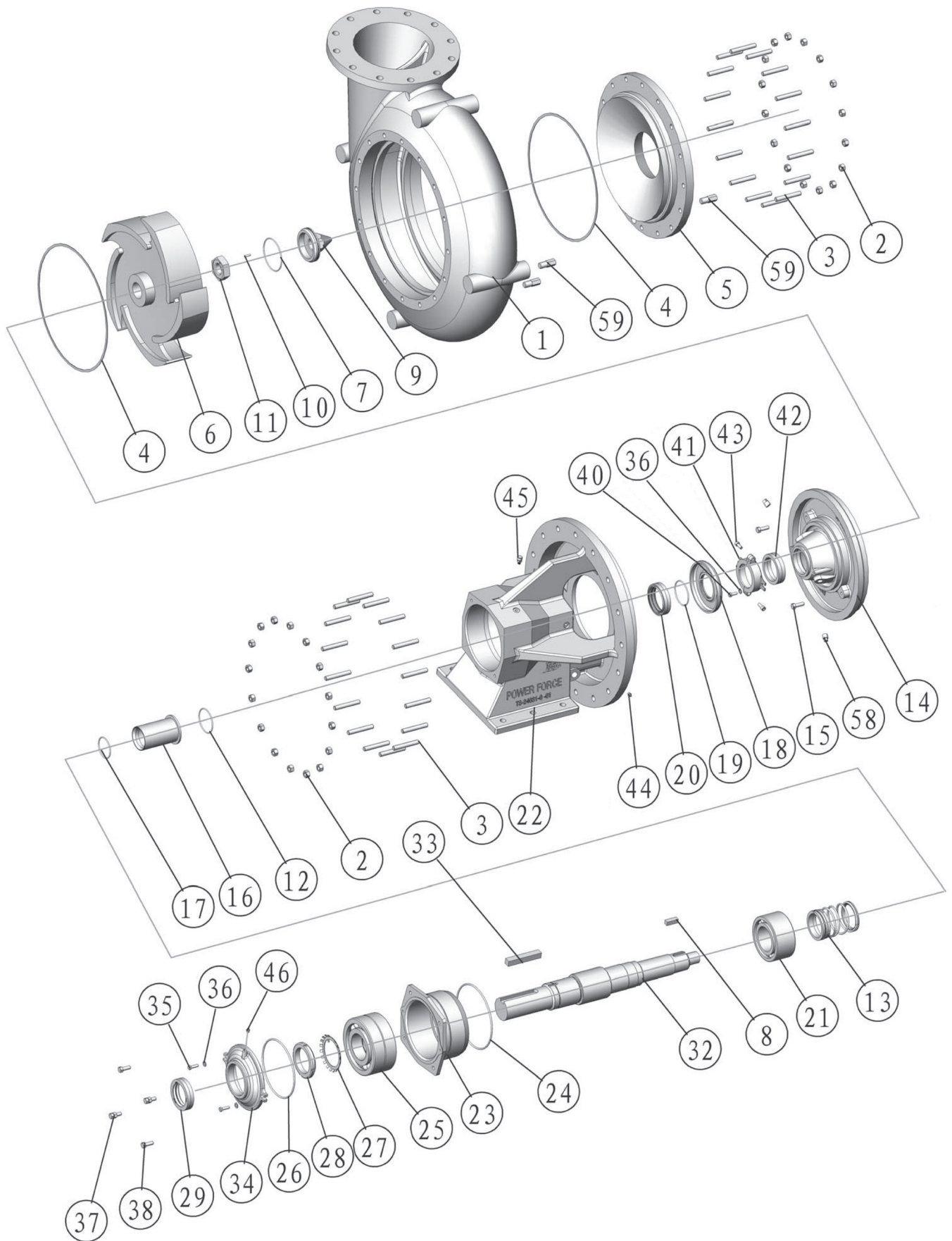
Beyond Integration
Seamless Solutions™

POWERFORCE PUMP

POWERFORCE Hard Iron Centrifugal Pump Parts

Item	Description	Qty	Part Number	Reference
1	Casing, 14×12×22	1	TS-24022-01-30	651120206
	Casing, 12×10×23		TS-25008-01-30	662001001
	Casing, 8×6×18		TS-25289-02-30	662002089
2	Nut, Casing	32	TS-3932-61	648402014
3	Stud, Casing (14×12 & 12×10)	32	TS-3862-86	658403308
	Stud, Casing (8×6)	16	TS-3862-90	601208285
	Stud, Casing (8×6)	16	TS-3862-92	648401118
4	Gasket, Casing (14×12)	2	TS-10399-55-01	658410501
	Gasket, Casing (12×10)		TS-25012-01-01	661010001
	Gasket, Casing (8×6)		TS-25012-02-05	662010032
5	Cover, Front (14×12)	1	TS-24021-01-30	654310309
	Cover, Front (12×10)		TS-25009-01-30	662014003
	Cover, Front (8×6)		TS-25291-02-03	662014129
6	Impeller (14×12) Clockwise Rot. 22"	1	TS-24024-X0-HS	662005003
	Impeller (12×10) Clockwise Rot. 23"		TS-25010-Y0-30	662005002
	Impeller (8×6) Clockwise Rot. 18"		TS-25292-T0-30	662005018
7	Seal, Impeller Nose	1	TS-7496-158	658408109
8	Key, Impeller	1	TS-4372-29-21	658405006
9	Nose, Impeller (Hex Design)	1	TS-24025-04-25L	652309601
	Nose, Impeller (Two Flat Design)		TS-24025-01-25L	652309600
	Nose, Impeller (2 Flat Iron Nitride)		TS-24025-03-25L	662014054
10	Screw, Set	1	TS-14430-19	658411400
11	Jam Nut	1	TS-24026-25L	658414255
12	Seal, Impeller	1	TS-7496-153	658408059
13	Mechanical Seal (Crane Type)	1	TS-24036	658416102
14	Stuffing Box, Mech. Seal (14×12)	1	TS-24027-01-30	653322305
	Stuffing Box, Mech. Seal (12×10)		TS-24027-02-30	662014002
	Stuffing Box, Mech. Seal (8×6)		TS-25290-02-30	662014128
15	Bolt, Stuffing Box	2	TS-3861-117	648401016
16	Sleeve, Shaft	1	TS-24029-21BZ	656422201
17	Seal, Sleeve	1	TS-7496-234	658408505
18	Slinger	1	TS-24030-01-13	654311604
19	Seal, Slinger	1	TS-7496-238P	658408554
20	Oil Seal, Inboard Bearing	2	TS-20619-03	658413604
21	Bearing, Inboard	1	TS-20615-2	658413000
22	Frame (14×12)	1	TS-24031-01-01	654312008
	Frame (12×10)		TS-24031-02-01	662014001
	Frame (8×6)		TS-25293-02-01	662014130
23	Housing, Bearing	1	TS-24032-01-01	654313006
24	Seal, Bearing Housing	1	TS-7496-272	658408901
25	Bearing, Outboard (14×12)	1	TS-20616-2	658413307
	Bearing, Outboard (12×10 & 8×6)	2	TS-20616-3	661009001
26	Seal, Bearing Cover	1	TS-7496-267	658408802
27	Lock Washer, Bearing	1	TS-6124-6	658407002
28	Lock Nut, Bearing	1	TS-6123-6	658406509
29	Oil Seal, Bearing Cover	2	TS-20619-04	658413638
32	Shaft	1	TS-24028-33	656420007
33	Key, Coupling	1	TS-4372-30-21	658405055
34	Cover, Bearing O.B.	1	TS-24033-01-01	654314004
35	Bolt, Bearing Cover	2	TS-3861-139	648401081
36	Washer, Bearing Cover	4	TS-3936-19-L8	648402030
37	Nut, Bearing Housing	2	TS-3932-62	658404702
38	Bolt, Bearing Housing	4	TS-3861-138	648401057
40	Bolt, Packing Gland	2	TS-3861-165	601408289
41	Gland, Packing Half	2	TS-24034-01-13	654315100
42	Packing Set	1	TS-8264-344-K	658409503
43	Screw, Cap	2	TS-3909-04-87	658404207
44	Plug, Grease	1	TS-8505-1	601474695
45	Breather	1	TS-8267-1	601473689
46	Grease, Fitting	1	TS-19368	661010020
58	Plug, Pipe	2	TS-8505-2-01	658409859
59	Plug, Pipe	1	TS-8505-6-01	658410006





POWERFORCE PUMP

POWERFORCE High Chrome Centrifugal Pump Parts

Item	Description	Qty	Part Number	Reference
1	Casing, 14×12×22	1	TS-24022-01-AY	662001007
	Casing, 12×10×23		TS-25008-01-AY	662002099
	Casing, 8×6×18		TS-25289-02-AY	
5	Cover, Front (14×12)	1	TS-24021-02-AY	662014051
	Cover, Front (12×10)		TS-25310-01-AY	662014165
	Cover, Front (8×6)		TS-25291-02-AY	
6	Impeller (14×12) Clockwise Rot. 22"	1	TS-24024-X0-AY	662005010
	Impeller (12×10) Clockwise Rot. 23"		TS-25010-X0-AY	662005024
	Impeller (8×6) Clockwise Rot. 18"		TS-2592-T0-AY	
14	Stuffing Box, Mech. Seal (14×12)	1	TS-24027-02-AY	662014052
	Stuffing Box, Mech. Seal (12×10)		TS-25309-01-AY	
	Stuffing Box, Mech. Seal (8×6)		TS-25290-02-AY	

POWERFORCE Centrifugal Pump Assembly with Mechanical Seal

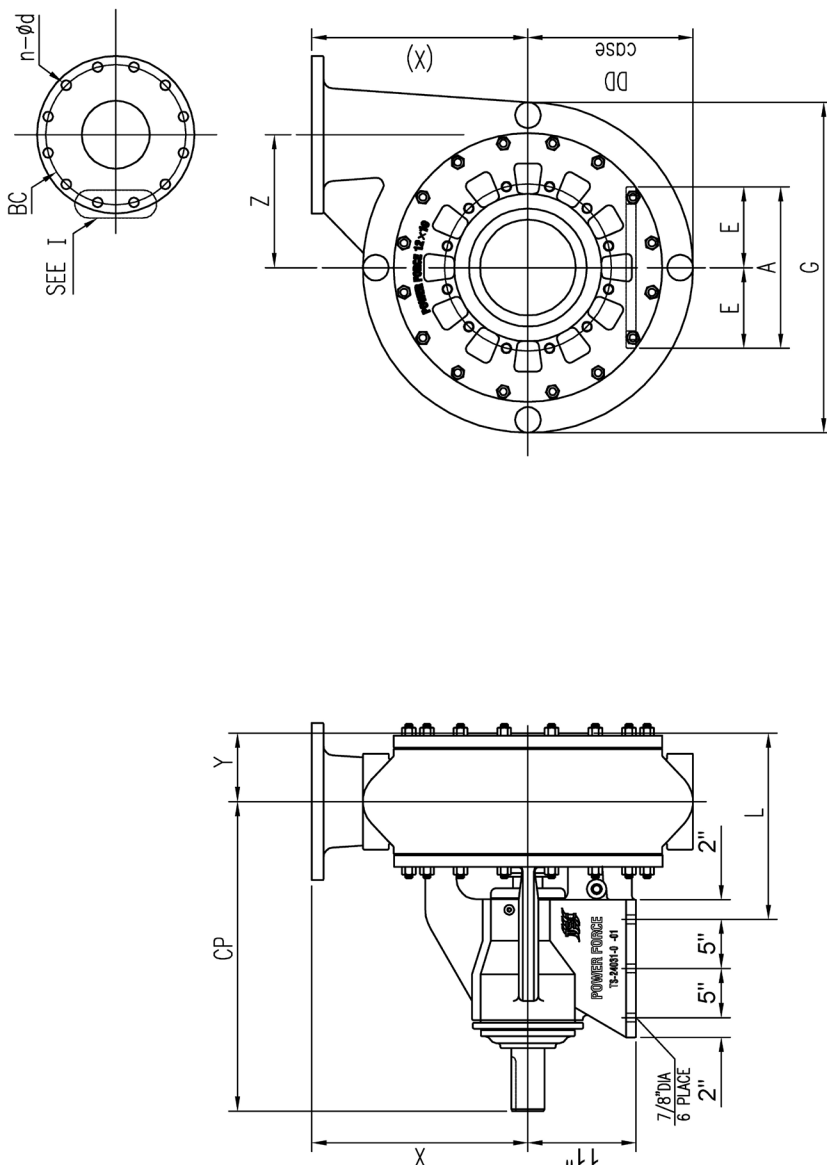
	Model	Part Number	Reference
1	14×12×22 Hard Iron	TS-650120009	650120009
2	14×12×22 High Chrome	TS-650120010	650120010
3	12×10×23 Hard Iron	TS-666001001	666001001
4	12×10×23 High Chrome	TS-666001007	666001007
5	8×6×18 Hard Iron	TS-666001005	666001005
6	8×6×18 High Chrome	TS-666001006	

ISO 9001:2008

DNV



POWERFORCE PUMP



Model	Suction Flange			Discharge Flange			A	E	G	L	X	Y	Z	CP	DD		
	Size	n	d	BC	Size	n										d	
PF8x6x18	8"	12	7/8" 9UNC 2B	13"	6"	12	7/8"	10 5/8"	16 13/32"	6 7/8"	25 1/4"	16 1/32"	16"	5 5/32"	10 19/32"	30 13/32"	12 7/16"
PF12x10x23	12"	12	3/4" 10UNC 2B	17"	10"	12	1"	14 1/4"	16 13/32"	6 7/8"	33 5/8"	18 11/16"	22"	6 15/16"	13 1/2"	31 1/2"	16 13/16"
PF14x12x22	14"	12	1" 8UNC 2B	18 3/4"	12"	12	See Note I	See Note I	16 13/32"	6 7/8"	37 3/4"	18 3/8"	19 7/16"	6 5/8"	14 9/16"	31 3/16"	18 13/16"

* THE ABOVE FLANGES ARE ANSI STANDARD 150 SERIES FLAT FACE EXCEPT PF8x6x18 IS ANSI 250# (300SERIES) RAISED FACE. ALL DISCHARGE FLANGE HOLES ARE THRU CLEARANCE HOLES EXCEPT AS NOTED.

NOTE I: THE DISCHARGE FLANGE FOR THE 14x12x22 HAS 12 HOLES, 10 HOLES THRU 1" DIA & 2 HOLES TAPPED 7/8-9UNC-2B AS SHOWN, ON A 17" DIA. B.C

NOTE: Dimensions are for reference only. Certified drawings should be requested for construction purposes.



POWERFORCE PUMP

TSC POWERFORCE™ is ideally suited for pumping high volumes of abrasive and corrosive slurry mixtures. Due to the stout, solid 2 ½" diameter shaft at the seal area and a 3" diameter shaft at the bearings, these pumps can be belt driven or direct connected without concern for shaft deflection. The improved impeller back vanes provide reduced stuffing box pressure. Maximum seal life is realized because of the improvement reducing stuffing box pressure and robust shaft design.

TSC POWERFORCE's™ small footprint design is versatile for mobile and stationary applications.

- ✓ **TSC POWERFORCE™ pumps have three sizes available 8x6x18, 12x10x23, and 14x12x22**
 - ✓ **Handles applications requiring up to 500 Horse Power**
 - ✓ **Flow rates up to 7,500 GPM**
 - ✓ **Head pressure up to 500 feet**
- Impeller back vanes aid in the reduction of solids collecting between the stuffing box and impeller that also decreases pressure within the casing
 - Replacable casing wear pad
 - Double angular contact bearings eliminate shaft end play and increases bearing and seal life
 - Front access drain for easy access
 - Full pipe diameter entrance for maximum efficiency
 - Standard Labyrinth seals for maximum bearing protection
 - Long-life no-adjustment mechanical seal available for near zero leakage
 - Replaceable shaft sleeve to prevent shaft wear
 - Replaceable stuffing box cover with stainless steel stuffing box bolts
 - Material alternatives: hard iron and high chrome
 - Thick, robust, concentric casing with replaceable casing wear pad
 - Wide impeller
 - 100% compatible with current market offerings

Common Applications

- ✓ Frac blending
- ✓ Paper pulp processing
- ✓ Quarry slurries
- ✓ Sand slurry
- ✓ Sewage
- ✓ Slag
- ✓ Supercharging Pumps
- ✓ Waste slurries

