

Product Introduction

WBC

Series Overview

WBC Slurry Pumps are a patented design for severe duties with operating flows up to 70,000 gpm (16,000 m³/h). Total dynamic head is up to 260 ft. (80m) per stage and power rating is up to 8,000 hp (5960kW). The design is based on the proved GIW LSA-S slurry pump series. WBC's may be required when customer specifications exceed the LSA-S limitations.

Fields of Application

Ideal for ore and tailings transport to minimize the effect of sudden pressure spikes.



WBC shells are designed to virtually eliminate bending moments and stresses that can cause a structural failure during a pressure surge. Shell, impeller and suction liner are made of GIW Gasite alloys that are recognized for superior abrasion resistance. The pump is equipped with GIW's proven heavy-duty mechanical end with spherical roller radial bearings and separate steep-angle thrust bearing. The standard fused carbide-coated shaft sleeve provides a smooth, extremely hard surface for long packing life. Optional sleeve materials are available.

Designation

WBC-18X20-54.10LWLR FM C/4ME L

Pump Type _____	_____
Discharge Nozzle (in.) _____	_____
Suction Nozzle (in.) _____	_____
Nominal Impeller Diameter (in.) _____	_____
Shaft Size _____	_____
Plug Code _____	_____
Shaft Type _____	_____
Bearing Assembly Type _____	_____
Impeller Release Ring _____	_____
Seal Type _____	_____
Lantern Ring Material _____	_____
Shell Hydraulic Type _____	_____
Impeller Number of Vanes _____	_____
Impeller Hydraulic Type _____	_____
Construction Code _____	_____

Pump Type

WBC - Wide Bolt Design

Shaft Size

(Standard options)

5 5-7/16
6 6-7/16
7 7-3/16
9 9
10 10-1/4
11 11-1/2

Plug Code

(Standard options)

G 2C4.5
J 6.5
K 7.75
L 9.0
M 11.5
N 13.0

Shaft Type

S Stiffened
W Straight

Bearing Assembly Type

L Limited End Float
C Conventional

Impeller Release Ring

R Impeller Release Ring
N No Impeller Release Ring

Seal Type

F Packing, Forward Flush
K Packing, Low Flow
M Mechanical Seal
B Throat Bushing

Lantern Ring Material

T Teflon
M Metal
N Not Applicable

Shell Hydraulic Type

C Semi-Volute

Impeller Hydraulic Type

ME Conventional Warped Vane

Construction Code

H Integral Hub Liner
L Separate Hub Liner
OD TOD Type Suction Liner
HP High Pressure
VHP Very High Pressure
GL Gathane Lined
RL Rubber Lined



WBC RANGE PUMP INFORMATION TABLE

Assembly Number	Normal Size		Maximum Operating Pressure		Free Passage		Discharge Positions	Vane Number & Type	Nominal IMP Diameter
	in	mm	psi	bar	in	mm	Degrees		
Z0112	18x18-46	455x455-1170	400	27.6	4.9x6.3	124x161	0 Only	4ME	43.75
5253D	18x18-46	455x455-1170	400	27.6	8.0x8.8	203x223	18 intervals	3ME	46.00
9306D	18x18-46	455x455-1170	400	27.6	8.0x8.8	203x223	18 intervals	3ME	46.00
5252C	18X20-54	455X505-1370	400	27.6	8.0X9.8	203X248	0 / 90 / 135 Only	3ME	54.00
9186D	18X20-54	455X505-1370	400	27.6	8.0X9.8	203X248	135 Only	3ME	54.00
5574D	18X20-54	455X505-1370	500	34.5	8.0X9.8	203X248	30 intervals	3ME	54.00
7452D	18X20-54	455X505-1370	600	41.3	8.0X9.8	203X248	30 intervals	3ME	54.00
9510D/ 9516D	20x20-46	505x505-1170	400	27.6	8.4x8.9	213x225	0 Only/ 180 Only	3ME	45.00
9220D	20x20-50	505x505-1270	333	23.0	8.5x8.9	216x225	0 Only	3ME	49.00
9511D	26x28-64	660x710-1625	533	36.8	9.2x10.8	234x275	0 / 90 / 180 Only	5ME	64.06

Note: Discharge position is limited due to support feet.

Materials

Part No.	Item	Standard	Alternate
101	Shell	Gasite WD28G	Gasite WD28G
230	Impeller	Gasite WD28G	Gasite WD28G
16-1	Suction Plate	Ductile Iron	Ductile Iron
13-19	Suction Liner	Gasite 18G	Gasite 28 G
332	Pedestal	Fab Steel	Fab Steel
210	Shaft	4150 Steel	4340HT Steel
451	Stuffing Box	Grey Iron	Grey Iron
524	Shaft Sleeve	Carbide Coated Steel	Carbide Coated Steel
350	Bearing Housing	Grey Iron	Grey Iron

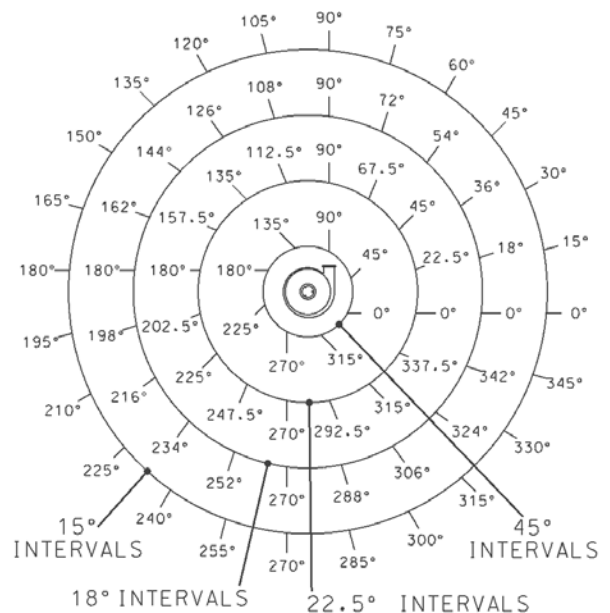
WBC Specifications

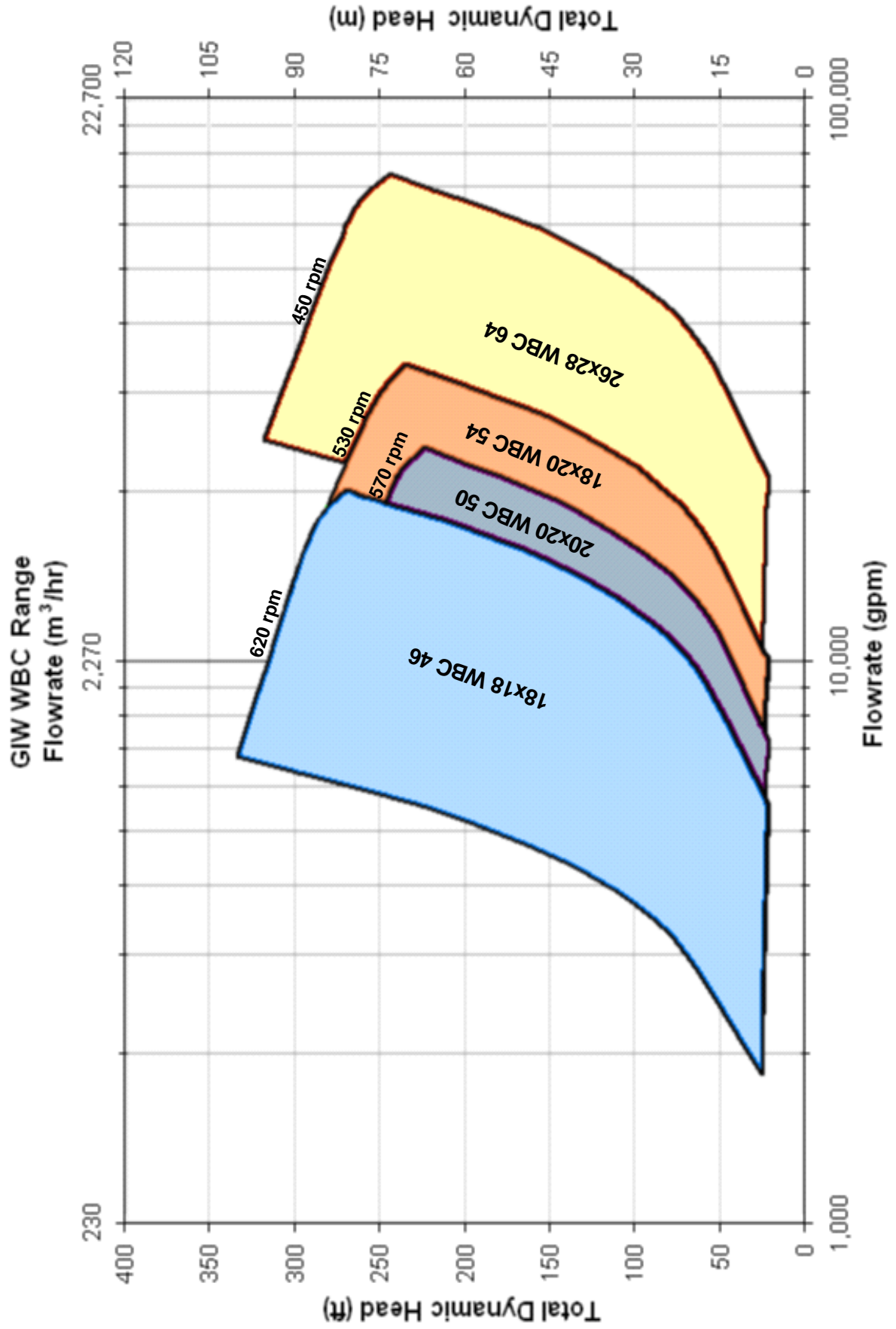
Capacities (Qmax.)	70,000 gpm 16,000 m ³ /h
Heads (H max)	260 ft 80m

Normal temperature limit is 150° F (65°C). Consult the factory for materials and configurations for temperatures above 150° F or for material options to suit your particular application.

Discharge Positions

Rotation direction is clockwise from the drive end. A bottom horizontal discharge is standard.



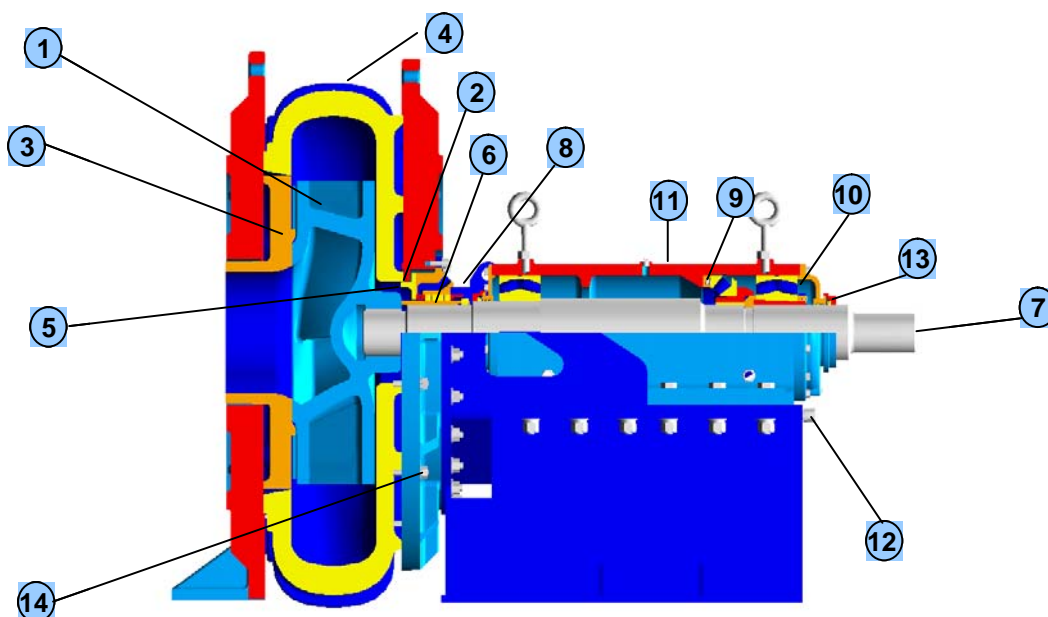


RPM SHOWN IS MAXIMUM AT CLASS TWO DUTY



GIW Model WBC Pumps

Low Maintenance, Severe Duty, Abrasion Resistant



Wear Parts

- ① Impeller is designed for wear-resistant operation in highly abrasive slurries using GIW's flow simulation computer program.
- ② Two aramid gaskets aid in the removal of the impeller.
- ③ Replaceable suction liner facilitates pump internal inspection and minimizes wear part usage cost. Liner can be rotated at intervals to increase wear life.
- ④ Pump shell is computer designed to optimize wear and efficiency.

Pump Seal

- ⑤ Replaceable wear plate maximizes stuffing box life.
- ⑥ Shaft sleeve with fused carbide hard coating to maximize packing life.

Mechanical End

- ⑦ Robust stiffened shaft to improve the wear life of the mechanical end and stuffing box.

- ⑧ Impeller release ring for easy impeller removal. Standard on all larger pumps.
- ⑨ Spring retainer ring locates the thrust bearing pre-load springs for correct axial thrust load.
- ⑩ Radial bearings are a heavy duty, self-aligning, double-row, spherical roller-type design. Limited end float is available for high pressure applications.
- ⑪ Split-cartridge bearing assembly offers ease of inspection and maintenance.
- ⑫ Accurate impeller clearance adjustments are easily made with the adjusting screw.
- ⑬ Labyrinth seals protect bearings.

Quick Alignment

- ⑭ Rabbet fits machined into the pedestal support the hub plate and shell to provide component alignment.

Interchangeability

To optimize wear life and efficiency, various hydraulic design and material options can be used on the same mechanical end.