

e-XC Single-Stage, Double-Suction, Horizontal Split Case Pumps

General

1. This specification covers e-XC single-stage, double-suction, horizontal split case pumps for municipal and industrial applications such as power generation, oil and gas, manufacturing, water utilities, recreational facilities, and mining. Pumps will be manufactured by Xylem Water Solutions with _____ diameter discharge and _____ diameter suction. Each unit shall be furnished with a pump, base, coupling, coupling guard and driver unless otherwise specified.

Performance

1. The pump(s) shall be designed for and operated continuously under normal service.
2. Pump performance shall be ANSI/HI 14.6 and ISO 9906:2012 (Grade 2B) compliant.
3. Operation criteria:

Max Working Pressure	Max Working Temperature	Checklist (select one)
175 psig [12 BAR]	250°F [121°C]	
400 psig [27.5 BAR]	250°F [121°C]	
450 psig [31 BAR]	250°F [121°C]	
Other:	Other:	

Design Pressure	Flow	TDH	Speed	Max Shutoff Head	NPSH _R at Rated Condition
psig [BAR]	GPM [m ³ /hr]	ft. [m]	RPM	ft. [m]	ft. [m]

4. The pumped liquid is _____ with a specific gravity of _____.

Product Specifications

1. Rotation when looking at the pump from the pump end.
 - a. Clockwise
 - b. Counterclockwise
2. Impeller
 - a. The impeller shall be double-suction enclosed type, hydraulically and dynamically balanced, keyed to the shaft, and fixed in the axial position. Impeller shall be fit with two impeller wear rings of material identical to the impeller. Wear rings shall be easily replaceable.
 - b. Impeller shall be made of:

Impeller Material	Checklist (select one)
ASTM A743 CF8 (304 SS)	

ASTM A743 CF8M (316 SS)	
ASTM A743 Duplex SS	
ASTM A743 Super Duplex SS	
Other:	

- c. Impeller shall be capable of passing solids having a maximum sphere size of _____.

3. Volute Casing

- a. The volute shall be of horizontal split case design with mounting feet integral cast into the bottom half of the casing. Suction and discharge flanges shall be on a common centerline in both horizontal and vertical planes. The volute shall include a priming port, gauge ports at inlet and discharge nozzles, drain ports, and a venting port. The upper casing shall be capable of being removed without disturbing piping connections or electrical motor connections. The casing shall be fitted with ASTM B584 C90300 bronze wear rings.
- b. The casing shall be of sufficient strength, weight, and thickness to ensure long life and reliable operation. The volute shall have smooth fluid passages large enough at all points to pass any size solid which can pass through the impeller and provide smooth unobstructed flow. The casing shall be hydrostatically tested to 1.5 times the maximum working pressure for 10 minutes.
- c. Volute shall be made of:

Volute Casing Material	Checklist (select one)
ASTM A48 Cast Iron Class 35	
ASTM A536 Ductile Iron 65-45-12	
ASTM A743 CF8M (316 SS)	
ASTM A743 Duplex SS	
ASTM A743 Super Duplex SS	
Other:	

- d. Casing flanges shall support the max working pressure and design condition of the pump.
 - i. Flange sizes below 28" shall be _____ drilling per ANSI B16.1 standards.
 - ii. Flange sizes equal to or greater than 28" shall be _____ drilling per AWWA C207 (Classes D and F) standards.

4. External Flush Lines

- a. The pump shall be furnished with external flush lines mounted to the vent port located atop the upper casing. Flush lines shall feed directly to the seal chamber to lubricate and cool seal elements. Flush line elements shall be made of 304 stainless steel.

5. Shaft and Shaft Sleeves

- a. (Dry Shaft Configuration) _____
 - i. The impeller shaft shall be rigid with a non-stepped design and provide high resistance to shaft deflection. The impeller shaft shall be AISI standard 5140 carbon steel and protected by 304 stainless steel shaft sleeves. The shaft

b. (Wet Shaft Configuration) _____

- ## 6. Bearing Housings

- ## 7. Baseplate

- ## 8. Coupling and Guard

- ## 9. Pump Sealing

- a. (Seal sizes equal to or below 4 in.) _____
- i. Pump shall be equipped with a pair of externally flushed mechanical seal assemblies.
 - ii. Seal assemblies shall be unbalanced unitized rubber bellow type.
 - iii. Seal assemblies shall be Carbon/Silicon Carbide/EPDM where a carbon face rotates against a stationary Silicon Carbide face. Seal elastomers shall be made of EPDM rubber. Seal housing shall be 304 stainless steel construction.
 - iv. The seal shall be rated for 175 psig (12 BAR) working pressure.
- b. (Seal sizes above 4 in.) _____
- i. Pump shall be equipped with a pair of externally flushed mechanical seal assemblies.
 - ii. Seal assemblies shall be balanced metal pusher type.
 - iii. Seal assemblies shall be Carbon/Silicon Carbide/EPDM where a carbon face rotates against a stationary Silicon Carbide face. Seal elastomers shall be made of EPDM rubber. Seal housing shall be 316 stainless steel construction.
 - iv. The seal shall be rated for 450 psig (31 BAR) working pressure.
- c. (Other) _____
- i. Pump shall be equipped with a pair of externally flushed mechanical seal assemblies.

- ii. Seal assemblies shall be _____ type.
- iii. Seal assemblies shall be _____ / _____ / _____ where a _____ face rotates against a stationary _____ face. Seal elastomers shall be made of _____ rubber. Seal housing shall be _____ construction.
- iv. The seal shall be rated for _____ psig (_____ BAR) working pressure.

10. Paint

- a. Pumps shall be painted with at least one coat of high-grade paint prior to shipment.

11. Testing

- a. Pumps shall be factory hydrostatically tested per Hydraulic Institute standards and name-plated before shipment.

12. NSF/ANSI 61 & NSF/ANSI 372 – CSA Group Certified¹

- a. NSF/ANSI/CAN 61 (Drinking Water System Components – Health Effects) are certification standards for products that come into contact with drinking water which ensure a product is safe for potable water applications.
 - i. CSA Group File Number: 009553_0_000
 - ii. CSA Group Class Number: 6861-08
- b. NSF/ANSI/CAN 372 (*Drinking Water System Components — Lead Content*) verifies the lead content within drinking water products to ensure they are safe as defined by the Safe Drinking Water Act. These requirements are based on EPA and Health Canada requirements.
 - i. CSA Group File Number: 009553_0_000
 - ii. CSA Group Class Number: 6853-01
- c. Standard construction (dry shaft) cast iron, ductile iron or CF8 (316 SS) enclosed e-XC pumps, fitted with either CF8 (304 SS) or CF8M (316 SS) impeller and impeller wear rings, and bronze or 2205 (duplex) SS or Nitronic 60 casing wear rings are certified to both NSF/ANSI/CAN 61 and 372 standards. Standard construction pumps are certified for use with either MR3 (C/SiC/EPDM or SiC/SiC/EPDM) metal pusher and MR4 (C/SiC/EPDM) rubber bellow mechanical seals.
- d. Optional wet shaft construction e-XC pumps with either 420 SS shaft with the same casing, impeller assembly, and mechanical seal configurations listed above are also certified to NSF/ANSI/CAN 61 and 372 standards.
- e. Although not required, an optional epoxy coating (Epoxyline 22) is available.

¹For the official certification listing, please visit www.csagroup.org and enter the file and class numbers on the CSA Group Product Listing page.

Revision 0: 07/25/2019 – Document introduced

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