



Customer Document title:

Flowserve Hydraulic Data Sheet

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 Flowserve Document No.: **1400944-010-5008-01**
 Document Revision No.: **A**
 Flowserve Order No.: **1400944**
 Flowserve Serial No.: **1400944CHP010A/B**
 Pump Type/Size: **MARK 3 LO-FLO / 1K1.5X1LF-82OP**
 Quantity: **2**
 Customer Name: **DESMET BALLESTRA NORTH AMERICA**

Customer Tag No: **DESMET TAG#: P632C1, World Energy TAG#: 19-P-766A, DESMET TAG#: P632C, World Energy TAG#: 19-P-766B**

Customer PO No.: **28493**

End User: **DESMET BALLESTRA NORTH AMERICA**

Please complete and return:

Document Reviewed by:		Document Reviewed date:	
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- APPROVED. NO ACTION REQUIRED**
- APPROVED. RE-SUBMIT AS FINAL.**
- APPROVED WITH COMMENTS.** DOCUMENT WILL BE MODIFIED AND RESUBMITTED AS FINAL.
- REJECTED.** CORRECT AND RE-SUBMIT FOR APPROVAL.
- FOR INFORMATION.** REVIEW NOT REQUIRED
- AS-BUILT**

- Return any documents sent for review with your comments by the stated return date. All documents not returned two weeks after requested Return date will be considered Approved, no action.
- Purchaser's comments and/or corrections within the scope of contract will be made on the first completed document submitted by Flowserve Corp. and returned.
- Corrections, alterations, additions and/or modifications outside scope of contract or made after first submittal may require an additional engineering service charge.
- Items conditionally approved or with deferred approval by purchaser must be specifically stated otherwise delivery may be affected.

Rev	Revision Description	Released	Release Date
	For Information	Morris, Tamika	04-Feb-22

Customer	: DESMET PROCESS & TECHNOLO...	Pump / Stages	: 1K1.5x1LF-82 M3 LF / 1
Customer reference	: WORPAR	Based on curve no.	: MIII7065V
Item number	: P632C1 / P632C2	Flowserve reference	: 1989206898
Service	: Vacuum Seal Tank Circulation	Date	: August 25, 2021

Operating Conditions		Materials / Specification	
Capacity (rated/normal)	: 17.6 USgpm / -	Material column code	: D4
Water capacity (CQ=1.00)	: -	Pump specification	: ANSI B73.1
Total developed head	: 150.92 ft	Other Requirements Hydraulic selection : No specification Construction : No specification Test tolerance : ANSI/HI 14.6 Grade 1B Driver Sizing : Max Power (SO to EOC) not using SF Seal configuration : Single Seal	
Water head (CH=1.00)	: -		
NPSHa/NPSHa less margin	: 29.5 ft / -		
Maximum suction pressure	: 0.0 psig		

Liquid	
Liquid type	: Other ←
Liquid description	: Vacuum Seal Tank Circul... ← Water
Temperature	: 99 °F
Density / Specific gravity	: - / 0.990
Solid Size - Actual / Limit	: - / 0.2500 in
Viscosity / Vapor pressure	: 0.69 cP / -

Performance			
Hydraulic power	: 0.66 hp	Impeller diameter	
Pump speed	: 3,500 rpm	Rated	: 5.56 in
Pump overall efficiency (CE=1.00)	: 17.9 %	Maximum	: 8.19 in
NPSH required (NPSH3)	: 3.6 ft	Minimum	: 4.00 in
Rated brake power	: 3.71 hp	Ns / Nss	: 328 / 5,310 (US units)
Maximum brake power	: 4.34 hp ↓	Minimum continuous flow	: -
Driver power rating	: 5.00 hp / 3.73 kW	Maximum head at rated diameter	: 158.28 ft
Casing working pressure	: 67.8 psig	Flow at BEP	: 33.0 USgpm
(based on shut off @ cut dia/rated SG)		Flow as % of BEP	: 53.2 %
Maximum allowable	: 275.0 psig	Efficiency at normal flow	: -
Hydrostatic test pressure	: 413.0 psig	Impeller diameter ratio (rated/max)	: 67.9 %
Estimated rated seal chamber pressure	: 12.9 psig	Head rise to shut off	: 4.9 %
		Total head ratio (rated / max) / (max / rated)	: 39.7 % / 251.6 %

CURVES ARE APPROXIMATE, PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS; CAPACITY, HEAD, AND EFFICIENCY.
 MCSF PROVIDES MECHANICAL PROTECTION ONLY. MINIMUM THERMAL FLOW MUST BE CALCULATED FOR THE SPECIFIC FLUID AND OPERATING CONDITIONS.

