

SHS Hygienic Injection Pump for TrumpJet® Flash Mixing Reactor



Main Applications

SHS hygienic injection pumps are designed for industrial applications to pump liquids requiring high-process cleanliness and system reliability:

- Paper, board and tissue stock
- White water

Features and Benefits

1 Hygienic, smooth, step-free and polished hydraulic design

- No dirt build up
- No fiber hanging, stapling or spinning

2 Heavy duty multi-discharge case**

- Up to seven equal and separate outlet flows
- Simple and easy piping arrangement
- Low pulse design

3 Fully open hygienic impeller*

- No fiber hanging, stapling or spinning
- Efficient pumped liquid circulation through the impeller
- Hygienic seal chamber flushing through the impeller

4 Reliable, simple, robust and tight threaded impeller fixing

- Optimal impeller hub design
- Self-locking due to low pitch thread
- No material hanging or spinning on hub
- Corrosion and wear resistant
- Accurate impeller clearances
- Easy assembly
- Strong and high torque capacity



5 Hygienic open seal chamber*

- Excellent flushing of the pumped liquid
- External flushing as an option

6 Hygienic, reliable, fully integrated double mechanical seal*

- No fiber hanging or spinning due to hygienic design
- Tight in all pressure conditions
- Simple and quick installation

7 Reliable heavy duty bearing unit

- Compact and heavy-duty bearing unit with oversized bearing design minimizes maintenance costs
- Exceeds ISO 5199 demand of life cycle 17,500 hours
- Grease lubrication up to 120°C/ 250°F temperature applications
- Non-contact bearing isolators

8 Heavy-duty shaft

- Short overhang shaft
- Minimizes deflection at shaft sealing
- Extends the shaft seal lifetime and reduces unexpected shutdowns and maintenance costs

9 Robust and rigid steel base plate for pump and motor

10 Flexible coupling

- Easy to install
- No need for alignment

11 ABB high output SynRM motor-drive packages

- Up to two frame sizes smaller than conventional designs
- Cost efficient and easy maintenance
- High reliability through low bearing temperatures
- Verified package efficiencies for accurate energy consumption figures

12 ABB ACS880 series variable speed drive

- Easy and energy efficient control of the pump due to variable speed drive
- Integrated flow calculation and control software, no separate flowmeter instrument in process pipe
- High efficiency - combined efficiencies of SynRM motor+drive packages easily exceed values of typical induction motor+drive combination
- ABB high output SynRM motor requires ACS880 variable speed drive

* Patent pending

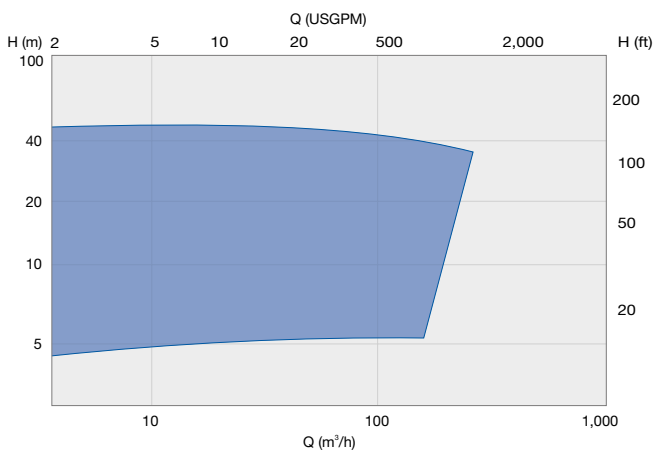
** Wetend Technologies Ltd patent pending

SHS Hygienic Injection Process Pump

Operating data

50 Hz	Capacities	60 Hz
up to 220 m ³ /h		970 USgpm
up to 40 m	Heads	up to 130 ft
up to 10 bar	Pressures	up to 150 psi
up to 120°C	Temperatures	up to 216°F

Performance range



Materials

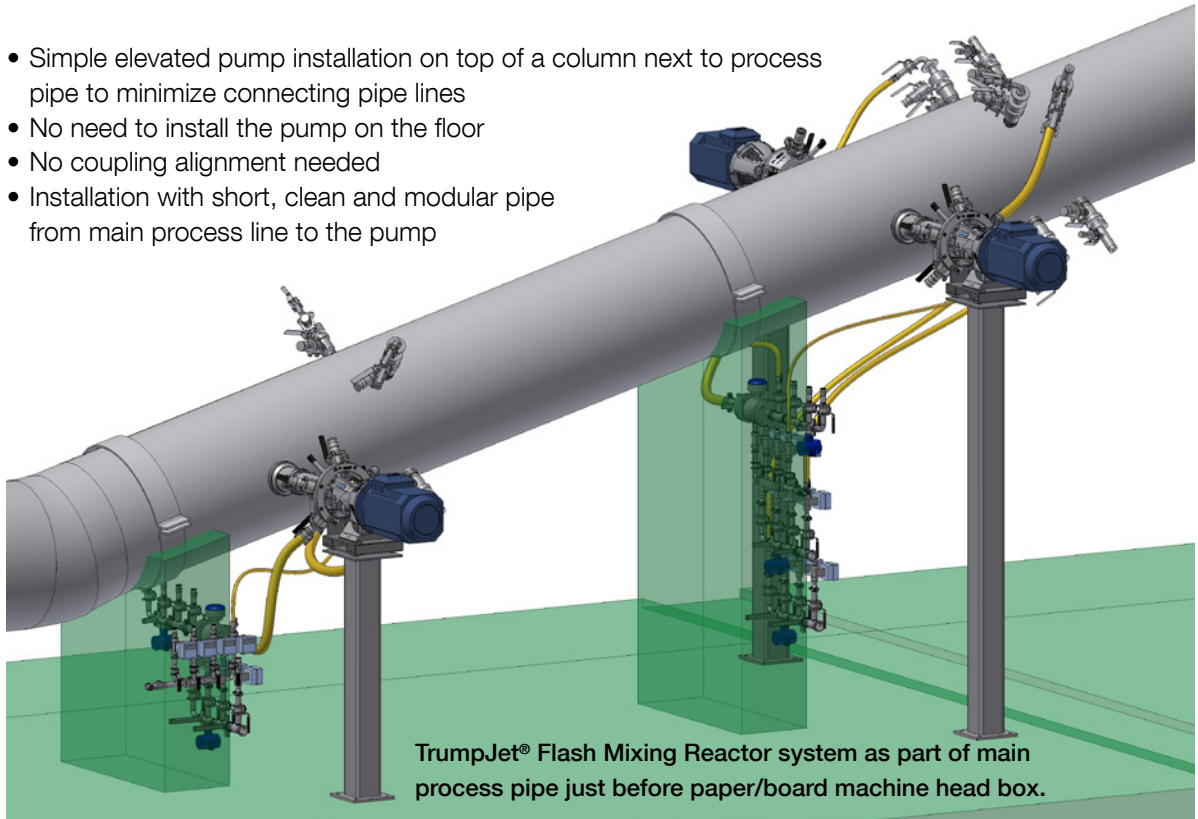
Part	Material	Nominal chemical composition %				
		C	Cr	Ni	Mo	N
Casing	EN 1.4404	max. 0.02	17.2	10.1	2.1	
Impeller	ASTM A890 Grade 3A	max. 0.06	24.0-27.0	4.0-6.0	1.75-2.5	0.15-0.25
Shaft	ASTM A276 Type 420	0.16 - 0.25	12.0 - 14.0			
Bearing housing	ASTM A48 35B					
O-ring material	EPDM	Used in temperature range -50...+150°C				

TrumpJet Flash Mixing Reactor of Wetend Technologies

The SHS pump is developed together by Sulzer and Wetend Technologies Ltd. The jointly created novel technology is smartly applied in compact, clean and efficient TrumpJet Flash Mixing processes of Wetend.

Easy and Versatile Installation

- Simple elevated pump installation on top of a column next to process pipe to minimize connecting pipe lines
- No need to install the pump on the floor
- No coupling alignment needed
- Installation with short, clean and modular pipe from main process line to the pump



Easy and Quick Disassembly and Maintenance

Back-pull-out design enables quick and easy disassembly minimizing the maintenance costs and production down time



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