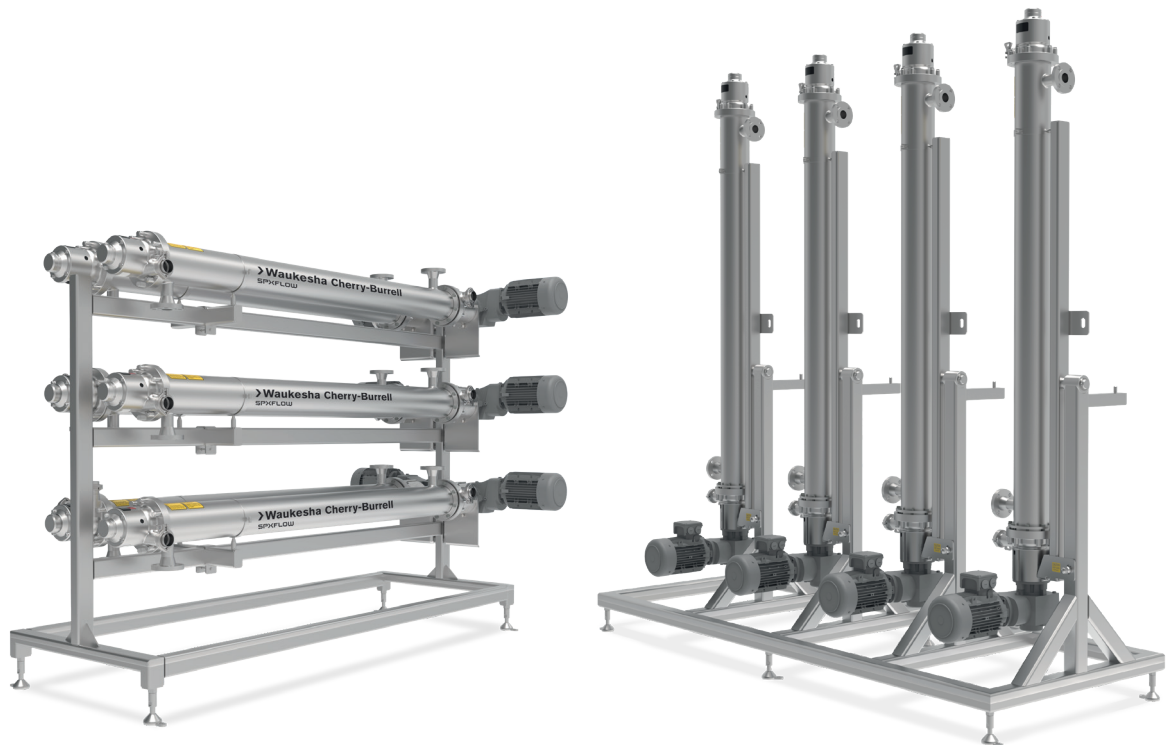


➤ Waukesha Cherry-Burrell®



VOTATOR® ORIGIN SERIES

Scraped Surface Heat Exchanger



SPXFLOW®

SIMPLE. VERSATILE. DEPENDABLE.



Combining knowledge from three experienced brands to develop an optimized light duty scraped surface heat exchanger.



The Votator® Origin Series is designed to provide powerful results for light duty, low-to-medium viscosity applications that demand high productivity. Its modular design enables flexible adaptation to your specific processing needs.

To enable process customization with either stainless steel or duplex stainless steel, there are three shaft diameters available, with a self-loading hinged scraper blade as a standard offering and a floating flat blade for various products including particulates. Additional options include rotor heating, insulation, and double mechanical seals.

The Votator® Origin Series complies with 3-A sanitary design and fabrication standards. Available certifications include PED, CE and CRN. The design is to EHEDG standards however a certificate was not pursued.

Heating/cooling media

Depending on the application and available utilities the Votator® Origin Series is suitable for a range of media including: steam, hot water, glycol, brine, cold water.

Wide range of configurations

The Votator® Origin Series is designed for use at 14 to 302°F (-10 to 150°C) with a design pressure of up to 290 psi (20 bar) in the standard version and comes optional in a 362 psi (25 bar) version.

Material options enable the processing of difficult fluids such as acidic products. The flow-design creates a low pressure drop and enables processing of products with particles and solids.

Benefits of the Votator Origin Series Scraped Surface Heat Exchanger:

- Customization, configuration flexibility
- Vertical and horizontal orientations
- Application adaptability
- Easy and quick maintenance
- New hinged scraper blade design
- Single and double mechanical cartridge seal options
- Support by skilled and experienced engineers

TYPICAL PRODUCT APPLICATIONS



For challenging applications, the following options are available:

- Self-sintered silicon carbide seal components
- Double mechanical seals
- Shaft heating
- Clip-on insulation
- Smaller shaft diameter (for particles)
- Larger shaft diameter (less residence time)
- Duplex stainless steel

Aftermarket Flexibility

Many of these options such as mechanical seals, shaft heating, and clip-on insulation can be selected at time of purchase or as a retrofit.



Dairy

- Cream Cheese
- Milk Concentrates
- Quark
- Yogurt
- Baby Food



Bakery

- Chocolate Products
- Custards
- Light fat sugar cremes



Fats & Oils

- Remelt of margarine



Fruit & Vegetable Preparation

- Jam / Marmalade
- Fruit pulps
- Vegetable purré



Fine Foods

- Starch Cooking
- Ketchup
- Chili Sauce
- Dressings
- Mayonnaise



Convenience Food

- Salsa
- Soups
- Sauces

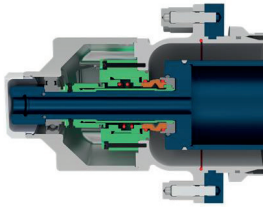


Cosmetics

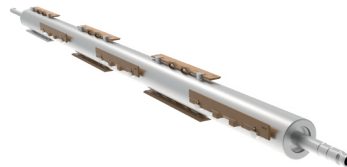
- Facial cremes
- Hair wax
- Gels



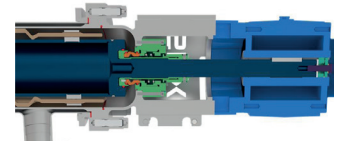
DESIGN FEATURES AND OPTIONS



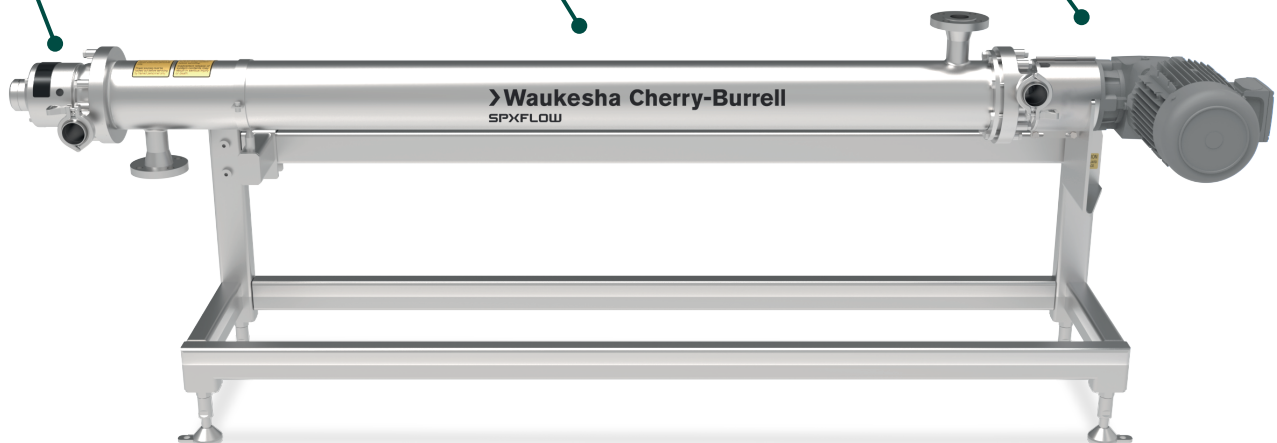
Opposite drive end with a roller bearing and cartridge seal. Designed for ease of maintenance, thermal expansion, and tube removal.



Shaft and blade system selection based on application needs to optimize heat transfer.



Direct drive shaft assembly with precise alignment and smaller footprint.



Single and double mechanical cartridge seal options for various process and hygienic requirements.



Unique scraper blade designs including floating or hinged designs for efficient blade positioning.

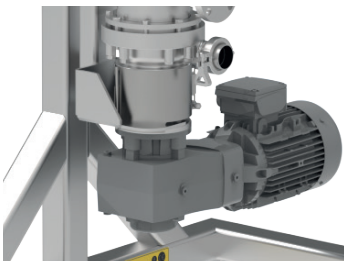
DESIGN FEATURES AND OPTIONS



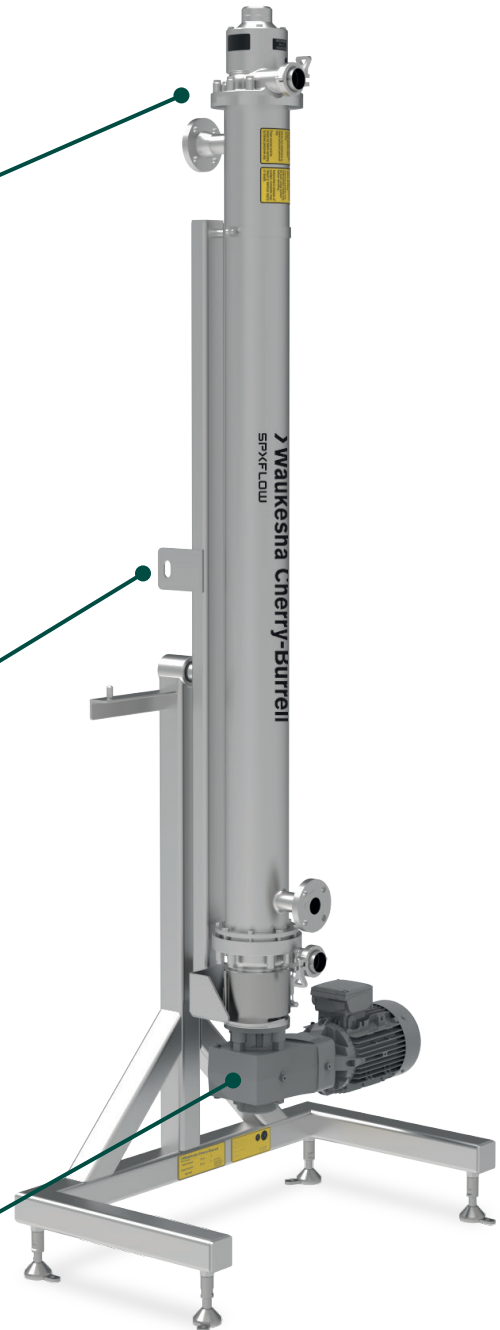
Tangential product port and bearing housing to provide gentle product flow path and multiple positioning.



Manual pivot point for ergonomic positioning to service the seals, tube, shaft, and blades.



One-piece drive end head and pedestal for a simplistic and sturdy design.



Horizontal and vertical frame orientations fully-welded with elevated feet for a sanitary design.

Technical Data

| DESCRIPTION | VOTATOR® 5X20V / 5X20H | VOTATOR® 5X40V / 5X40H | VOTATOR® 5X80V / 5X80H |
|--------------------------------------|---|---|--|
| Heat exchange surface / cyl. | 2.1 ft² (0.2 m²) | 4.3 ft² (0.4 m²) | 8.6 ft² (0.8 m²) |
| Inner cyl. diameter | 5.26" (134 mm) | 5.26" (134 mm) | 5.26" (134 mm) |
| Shaft diameter - Blade style | 2.84" (72 mm) - Floating | | |
| | 3.8" (97 mm) - Hinged or Flotaing | | |
| | 4.4" (112 mm) - Floating | | |
| PRODUCT | | | |
| Product volume - 2.84" (72 mm) shaft | 1.32 gal (5.0 ltr) | 2.64 gal (1 0 ltr) | 5.26 gal (19.9 ltr) |
| 3.8" (97 mm) shaft | 1.11 gal (4.2 ltr) | 1.92 gal (7.3 ltr) | 3.56 gal (13.5 ltr) |
| 4.5" (112 mm) shaft | 0.56 gal (2.1 ltr) | 1.11 gal (4.2 ltr) | 2.22 gal (8.4 ltr) |
| Annular space - 2.84" (72 mm) shaft | 1.2" (31 mm) | | |
| 3.8" (97 mm) shaft | 0.7" (17.5 mm) | | |
| 4.5" (112 mm) shaft | 0.4" (11 mm) | | |
| Max. working pressure standard | 290 psi (20 bar) | | |
| Max. working pressure option | 362 psi (25 bar) | | |
| Working Temperature | 14 to 302°F (-10 to 150°C) | | |
| Product connection in / out | 2" S-Line Clamp (51 mm) | | |
| MEDIA | | | |
| Working pressure | -14 to 101 psi (-1 to 7 bar) | | |
| Working Temperature | -4 to 338°F (-20 to 170°C) | | |
| Media pipe in / out | 1.5" 150# RF flange (48.6 mm) | | |
| HEIGHT X LENGTH X WIDTH | | | |
| Horizontal version 1 cyl. | 47" x 33.5" x 29" (1,189 mm x 851 mm x 735 mm) | 66.5" x 33.5" x 29" (1,689 mm x 851 mm x 735 mm) | 106" x 33.5" x 29" (2,689 mm x 851 mm x 735 mm) |
| Vertical version | 61.4" x 29.5" x 24.5" (1,560 mm x 750 mm x 620 mm) | 81.1" x 29.5" x 24.5" (2,060 mm x 750 mm x 620 mm) | 120.5" x 29.5" x 24.5" (3,060 mm x 750 mm x 620 mm) |

| GEAR MOTOR SPECIFICATIONS | | | |
|------------------------------------|-------------------|-------------------|--------------------|
| 50 Hz / 400V motor - power | 3.0 hp (2.2 kW) | 4.0 hp (3 kW) | 5.4 hp (4 kW) |
| Standard shaft speed | 176 rpm | 278 rpm | 142 rpm |
| Rated shaft torque | 88 ft-lb (119 Nm) | 76 ft-lb (103 Nm) | 199 ft-lb (270 Nm) |
| 60 Hz / 460V or 575V motor - power | 3.0 hp (2.2 kW) | 4.0 hp (3 kW) | 5 hp (3.7 kW) |
| Standard shaft speed | 213 rpm | 328 rpm | 181 rpm |
| Rated shaft torque | 73 ft-lb (99 Nm) | 64 ft-lb (87 Nm) | 144 ft-lb (195 Nm) |

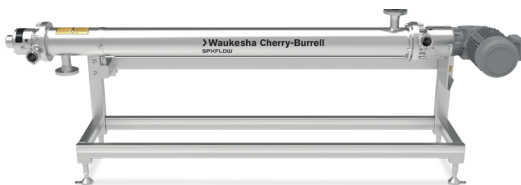
*Additional output speeds are available upon request. Change in output speed will also impact the torque rating.

| CERTIFICATIONS* | |
|--|--|
| CE, PED, 3A, CRN (on request) | |
| *The equipment is engineered in accordance with the CE Pressure Equipment Directive, and is exempt from the requirements of ASME Section VIII, Unfired Pressure Vessels due to it's diameter. The design is to EHEDG standards, but a certificate was not pursued. | |

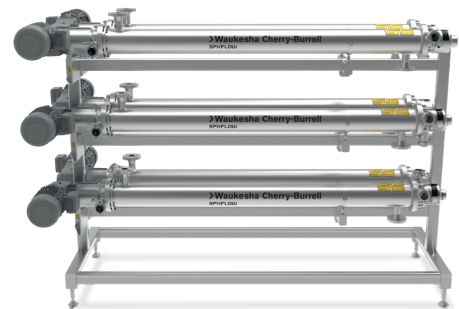
ADAPTABILITY



Vertical Frames
Available for 1 to 4 cylinders



Horizontal Frames
Available for 1 to 6 cylinders



Global Service and Support

SPX FLOW offers a broad range of genuine spare parts and service plans that extend the lifecycle of our products. The SPX FLOW Genuine Spare Parts Service includes access to our full engineering capabilities and regular equipment service audits. Our experienced team has the engineering expertise necessary to ensure reliable,

effective, and optimized solutions for any equipment-based issue. Featuring detailed equipment service audits, this parts service can predict and prevent productivity loss, unexpected downtime, and reduced process output. Additionally, SPX FLOW offers certification, safety and training designed for maximum uptime.

Spare Parts Kits Available:

- Service seal kit
- Overhauling seal kits
- Opposite drive end head seal kit
- Drive end head seal kit
- Shaft seal kit
- Drive assembly service kit
- Heat exchange section service kit
- Tool kits

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For more information, visit www.spxflow.com.

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