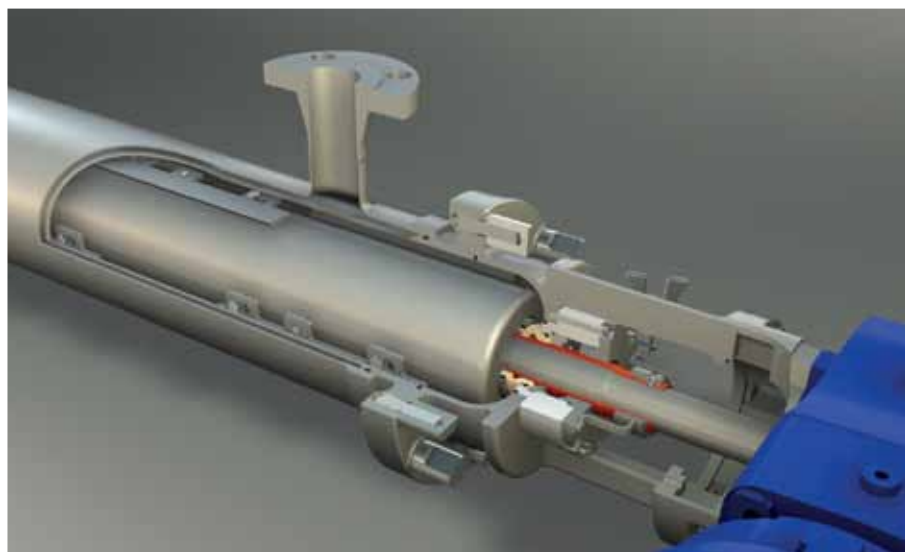


APV VT+ / HT+ Series

Scraped Surface Heat Exchanger

Multi-flexible configuration for robust and efficient heat transfer





A single solution for multiple needs

The competitive challenges in the dairy, food, beverage and cosmetics industries are constantly increasing. Manufacturers require optimum performance, quality and flexibility at the lowest possible cost in order to respond to current and future production requirements.

Finding the right heat transfer solution requires experience and careful assessment of application and quality requirements such as energy efficiency, space constraints, availability (uptime), installation, product related requirements and flexibility.

Increasing competition and tight margins require low operating costs, quick payback and short return on investment (ROI).

As one of the largest producers of Scraped Surface Heat Exchangers (SSHE's) in the Food & Beverage segment, SPX understands the technical and commercial needs when it comes to heat transfer solutions for medium to high-viscosity products.

APV VT+/HT+ – all in one

Based on a multi-flexible platform, the APV VT+/HT+ series is designed to operate under harsh conditions where other heat exchanger technologies can fail or cannot sustain operational efficiency over a longer period.

Designed to heat or cool medium and high viscous products with or without particles under sanitary conditions, the APV VT+/HT+ series comes in two basic configurations:

Horizontal

- Rigid stainless steel frame
- Easily extendable up to 6 cylinders

Vertical

- Rotatable cylinder for easy maintenance
- Low space requirements

Made in the USA and the EU, the APV VT+/HT+ series offers robust reliability and performance along with easy access for maintenance, and fast and effective cleaning (CIP/SIP).

Industries

- Dairy
- Fats & Oils
- Processed Foods
- Fine-foods
- Fruit preparation
- General food applications
- Cosmetics
- Industrial applications

Applications

- Heating
- Cooling
- Crystallization
- Pasteurization
- Sterilization

Products

- Medium to high viscosity
- Products with particles
- Thixotropic products
- Heat sensitive products



Robust technology, materials and design

The APV VT+/HT+ is designed specifically for hygienic processing of medium and high viscous products. Its modular design enables flexible adaptation to the process needs.

Floating scrapers in a staggered configuration, three optional rotor diameters, a choice of three scraper blade materials, and a duplex steel option enable process customization for a large variety of applications.

The APV VT+/HT+ series complies with EHEDG (approval pending) and 3A design and fabrication standards.

Heating/Cooling media

Depending on the application and available utilities the APV VT+/HT+ offers a choice of media including:

- Steam
- Hot water
- Glycol
- Brine
- Cold water

General use

The APV VT+/HT+ is designed for use at -10 to 150°C (14 to 302°F) with a design pressure of up to 20 barg (290 psig) in the standard version and comes optional in a 25 barg (362 psig) version.

Materials used enable utilization of acidic or corrosive media. The flow-design creates a low pressure drop and enables processing of products with particles and solids.

Twelve good reasons to buy the APV VT+/HT+ scraped surface heat exchanger:

1. Customization, multiple options
2. Easily extendable
3. Vertical & horizontal configurations
4. Short CIP/SIP time
5. Easy maintenance
6. Aseptic production option
7. Small footprint
8. Low downtime
9. Fast delivery and installation
10. Use of widely available SPX standard parts
11. Support by skilled and experienced engineers
12. On site SPX representatives

Typical product applications

Dairy

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

Bakery

- Chocolate Products
- Custards
- Light fat sugar cremes

Fats & Oils

- Remelt of margarine
- Shortening

Fruit & Vegetable Preparation

- Jam / Marmalade
- Fruit pulps
- Vegetable purré

Fine Foods

- Starch Cooking
- Ketchup
- Dressings
- Mayonnaise

Convenience Food

- Salsa
- Soups
- Sauces

Cosmetics

- Facial cremes
- Hair wax
- Gels

Industrial Applications

- Oil

Customized to your specific needs

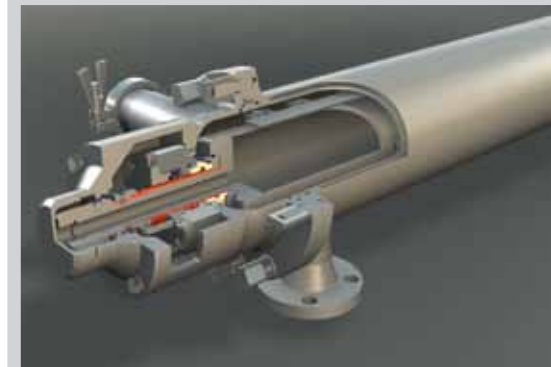
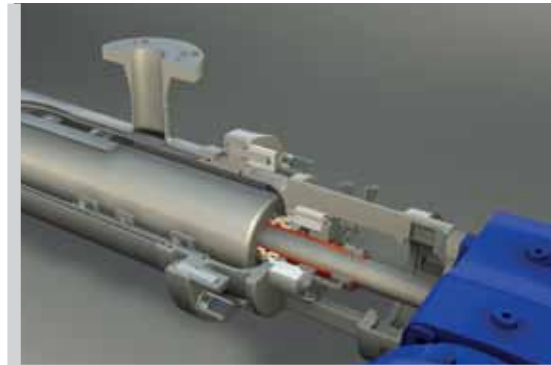
The APV VT+/HT+ can be customized depending on the product, production volume, hygienic requirements, space constraints and the heating/cooling medium.

Standard high-flexibility medium viscosity unit

- 20 bar (290 psi) product pressure - high standard pressure rating for higher flexibility
- Product wetted parts in EN 1.4404 / AISI 316L
- Rotor diameter: 99 mm (4")
- Scraper blades material: PEEK/PTFE - with teflon to reduce friction and wear
- 50 Hz / 400V motor: 3.0 kW (4 hp) / 278 rpm / 103 Nm (76 ft*lb)
60 Hz / 460V motor: 2.2 kW (3 hp) / 213 rpm / 99 Nm (73 ft*lb)
- Two single mechanical shaft seals
 - for high hygienic demands
 - increased run-time and shorter CIP-time - higher production output
 - in cartridge design for fast and easy maintenance
 - with widely available SIC/SIC sealing surfaces from the SPX shelf
 - EPDM gaskets

Customization options

- Product wetted parts in duplex steel (EN 1.4462 / SAF 2205) for:
 - 25 bar (362 psi) option
 - acidic products
 - abrasive products
- Rotor diameter: 112 mm (4.4") for:
 - better heat transfer
 - shorter contact time with heating surface - less heat exposure to product
 - shorter holding/heating time - less exposure to product
 - less holding volume - less waste product
- Rotor diameter: 72 mm (2.84") for:
 - larger particles
 - less pressure drop - smaller pumps
- Scraper blade material: reinforced PEEK for higher viscous products
- 50 Hz / 400V motor: 2.2 kW (3 hp) / 176 rpm / 119 Nm (88 ft*lb)
4 kW (5.4 hp) / 142 rpm / 270 Nm (199 ft*lb)
60 Hz / 460V motor: 3 kW (4 hp) / 328 rpm / 87 Nm (64 ft*lb)
3.7 kW (5 hp) / 181 rpm / 195 Nm (144 ft*lb)
- Heatable rotor
 - to avoid product build-up when cooling crystallizing products
 - extendable later
- Two flushable double mechanical seals
 - for aseptic design (use with i.e. aseptic fluids or steam)
 - for use with solidifying or abrasive product particles i.e. sugar (with water flush)
 - single mechanical seals can easily be upgraded
- Clip-on insulation
 - for easy mounting/dismounting
- Gasket material: FPM



Certifications

- Made in accordance with the European Machine Directive (2006/42/EC)
- Pressure tank in accordance with
 - PED
 - ASME*
- Sanitary approval according to
 - EHEDG (approval pending)
 - 3A
- Other certificates 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 its diameter.

TECHNICAL DATA	VT+520 / HT+520			VT+540 / HT+540			VT+580 / HT+580		
Heat exchange surface / cyl. m ² (ft ²)	0.2 (2.1)			0.4 (4.3)			0.8 (8.6)		
Inner cyl. diameter mm (in)	134 (5.26)			134 (5.26)			134 (5.26)		
Scraper system	Floating			Floating			Floating		
Scraper rows	4 staggered			4 staggered			4 staggered		
Shaft / dasher diam. mm (in)	72 (2.84)			72 (2.84)			72 (2.84)		
	99 (4)			99 (4)			99 (4)		
	112 (4.4)			112 (4.4)			112 (4.4)		
50 Hz / 400V motor - power kW (hp)	2.2 (3.0)	3.0 (4.0)	4.0 (5.4)	2.2 (3.0)	3.0 (4.0)	4.0 (5.4)	2.2 (3.0)	3.0 (4.0)	4.0 (5.4)
Scraper rotor speed - rpm	176	278	142	176	278	142	176	278	142
Scraper rotor torque Nm (ft*lb)	119 (88)	103 (76)	270 (199)	119 (88)	103 (76)	270 (199)	119 (88)	103 (76)	270 (199)
60 Hz / 460V motor - power kW (hp)	2.2 (3)	3.0 (4)	3.7 (5)	2.2 (3)	3.0 (4)	3.7 (5)	2.2 (3)	3.0 (4)	3.7 (5)
Scraper rotor speed - rpm	213	328	181	213	328	181	213	328	181
Scraper rotor torque Nm (ft*lb)	99 (73)	87 (64)	195 (144)	99 (73)	87 (64)	195 (144)	99 (73)	87 (64)	195 (144)
Product:									
Product volume ltr./ (gal.) - 72 mm/(2.84") shaft	5.0 (1.32)			10 (2.64)			19.9 (5.26)		
99 mm/(4") shaft	3.2 (0.85)			6.3 (1.66)			12.7 (3.36)		
112 mm/(4.5") shaft	2.1 (0.56)			4.2 (1.11)			8.4 (2.22)		
Annular space mm/(in) - 72 mm/(2.84") shaft	31 (1.2)			31 (1.2)			31 (1.2)		
99 mm/(4") shaft	17.5 (0.7)			17.5 (0.7)			17.5 (0.7)		
112 mm/(4.4") shaft	11 (0.4)			11 (0.4)			11 (0.4)		
Max. working pressue standard bar (psi)	20 (290)			20 (290)			20 (290)		
Max. working pressue option bar (psi)	25 (362)			25 (362)			25 (362)		
Working Temperature °C (°F)	-10 to 150 (14 to 302)			-10 to 150 (14 to 302)			-10 to 150 (14 to 302)		
product pipe In / out mm (in)	51 (2)			51 (2)			51 (2)		
Media:									
Working pressure bar (psi)	-1 to 7 (-14 to 101)			-1 to 7 (-14 to 101)			-1 to 7 (-14 to 101)		
Working Temperature °C (°F)	-20 to 170 (-4 to 338)			-20 to 170 (-4 to 338)			-20 to 170 (-4 to 338)		
media pipe In / out mm (in)	48.6 (2)			48.6 (2)			48.6 (2)		
Height x Length x width									
- Horizontal version 1 cyl. - mm (in)	1,189x851x735 (47x33.5x29)			1,689x851x735 (66.5x33.5x29)			2,689x851x735 (106x33.5x29)		
- Vertical version mm (in)	1,560x750x620 (61.4x29.5x24.5)			2,060x750x620 (81.1x29.5x24.5)			3,060x750x620 (120.5x29.5x24.5)		

Global service and support

SPX has a finely meshed network of locations and offices all over the world. Our experienced local specialists work to quickly address our customers' specific applications and business needs. This ensures optimum performance and reliability of your SPX equipment regarding cost control, productivity, reliability, waste and energy management, and regulatory compliance.

APPLICATION TESTING

You can arrange for application testing on rented SPX equipment on your own premises. Alternatively you can leverage the entire range of SPX expertise and equipment at one of our Innovation Centers.

Experienced SPX R&D engineers and product specialists are ready to assist you to determine the right configuration for your equipment, whether the goal is to develop new products or improve an existing application.

INSTALLATION AND COMMISSIONING

Skilled local SPX engineers ensure rapid installation and commissioning of your new SPX equipment.

TRAINING

Local SPX specialists are available to train your workforce in operation and maintenance to ensure you derive maximum benefit from your SPX equipment.

ORIGINAL SPARE PARTS

The wear parts used in the APV VT+/HT+ are widely available SPX standard parts. These can be ordered to comply with your scheduled maintenance planning in order to minimize downtime.

RAPID RESPONSE

SPX experts are ready to respond at short notice if a problem arises requiring immediate assistance.

MAINTENANCE AGREEMENT

A maintenance agreement with SPX ensures scheduled maintenance by a local SPX specialist to minimize downtime and give you peace of mind.





Scraped Surface Heat Exchangers APV VT+/HT+

ABOUT SPX

Based in Charlotte, North Carolina, SPX Corporation (NYSE: SPW) is a global multi-industry manufacturing leader. For more information, please visit www.spx.com

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SPX reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region. For more information please visit www.spx.com.

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