



# APV Quad-Drive Plate Heat Exchanger Advanced Paraflow Technology



# The Advantages of the APV Quad-Drive Plate Heat Exchanger

## Easy to Install:

- Self-contained closing system requiring only one electrical connection
- Overall length does not increase when machine is opened
- Flexible design with no minimum plate pack size (FS1-4) allows for expansion as process needs change
- Smaller, durable, lighter weight design reduces floor stress and space requirements

## Intelligent Control:

- Easily reconfigured for plate pack modifications
- Quickly make plate pitch adjustments for variations in gasket compression
- Open/close hours display ensures optimum maintenance schedule
- Eliminates operator calculations and measurement
- User can enter a follower fitting length (space permitting) for the machine to accommodate when opening
- Excessive torque shutdown feature stops the system if immovable obstruction is sensed

## Maintenance Benefits:

- Access any plate in the pack without moving or removing any components
- Fully sealed, hinged door with external oil level gauge
- Easily adjust drive train tension with a single wrench (supplied)
- Easy access to the plate pack
- Simple push-button operation allows operator or maintenance personnel to do other work while unit is opening or closing
- Reliability is ensured through life-cycle testing equivalent to ten years of daily openings





### Optimizes Plate and Gasket Life:

- Automatic, two-speed closing slows the follower as it approaches the set pitch, eliminating the risk of over compression
- Intelligent control ensures proper opening and closing
- Four synchronized tie bars mean consistently accurate plate alignment

### Unmatched Safety:

- Keyswitch protected PLC limits access to authorized personnel only
- Automatic operation eliminates need for component removal, lifting of heavy objects and use of tools
- Electric safety interlock on cabinet door
- Unencumbered access to plate pack reduces possibility of back injuries
- Safety warning Xenon strobe light activates prior to and during movement to warn personnel

### Basic Frame Description for R5:

The R5 Quad-Drive is a four tie bar sanitary heat exchanger frame, with a power tightening or manual closing system.

The plate pack is compressed by simultaneous and synchronous rotation of four tie bars which in turn pull the follower towards the head.

Tie bar rotation is accomplished by means of a chain and sprocket system, driven by a hydraulic motor or hand wrench. The motor is actuated by a hydraulic pump, turned by an electric motor.

The powered system is controlled by a PLC to achieve automatic closing (to correct pitch) and opening (to a dimension that allows full plate pack access).

A manual version of the Quad-Drive is available utilizing the features and benefits of the four tie bar system but eliminating the hydraulic system. The unit can be easily opened and closed by turning the main drive sprocket using a 46 mm A/F wrench (provided).

# R5 Quad-Drive Product Specifications

## Data:

<b>Plate Type(s)</b>	R5, ER5 and the new NR5 EasyFlow	
<b>Working Pressure</b>	200 psig	
<b>NR5(0.6) Plate Capacities</b>	FS1 140	FS4 807
	FS2 307	FS5 974
	FS3 474	FS6 1224
<b>Connection Types</b>	4" tri-clamp — standard, other connections available	
<b>Connection Positions</b>	4 head, 4 follower	
<b>Connection Height (Lower Ports)</b>	965 mm (38") nominal from floor	
<b>Mounting</b>	4 adjustable ball feet +/- 50 mm (2")	
<b>Cladding Material</b>	304/304L S.S.	
<b>Finish</b>	No. 4 polish on head, follower and end support, glass blast top and bottom bar	
<b>Power Closing System</b>	Hydraulic motor driving 2-stage chain and sprocket arrangement	
<b>Manual Closing System</b>	46 mm A/F hexagon M30 wrench (provided)	

<b>Power Pack</b>	5 hp electric motor driving 2-speed hydraulic pump
<b>Hydraulic Oil</b>	20 U.S. gallons, A/W 32
<b>Power Requirements</b>	460 VAC, 3-phase 15 amp (mating connector supplied)
<b>Control System User Interface</b>	PLC controlling solenoid operated, hydraulic 2-way valve, 5.7" CCFL, touchscreen monitor, 320 x 240 resolution, 4 shades

## Code Compliance and Safety:

<b>Electrical</b>	Front panel e-stop, key operated hydraulic system, "Hydraulics running" light, electrical cut-off switch on powertrain access door and safety warning light
<b>End Support Enclosure</b>	Manufactured to NEMA 4X standards
<b>3A Compliant</b>	
<b>ASME Compliant</b>	(Future)



Your local contact:



APV, An SPX Brand  
1200 West Ash Street  
Goldsboro, NC 27530  
Phone: (919) 735-4570 Fax: (919) 581-1167  
Email: [answers.us@apv.com](mailto:answers.us@apv.com)

For more information about our worldwide locations, approvals, certifications, and local representatives, please visit [www.apv.com](http://www.apv.com).

SPX Corporation 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.