



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:

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

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

Code Compliance and Safety:

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

For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

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