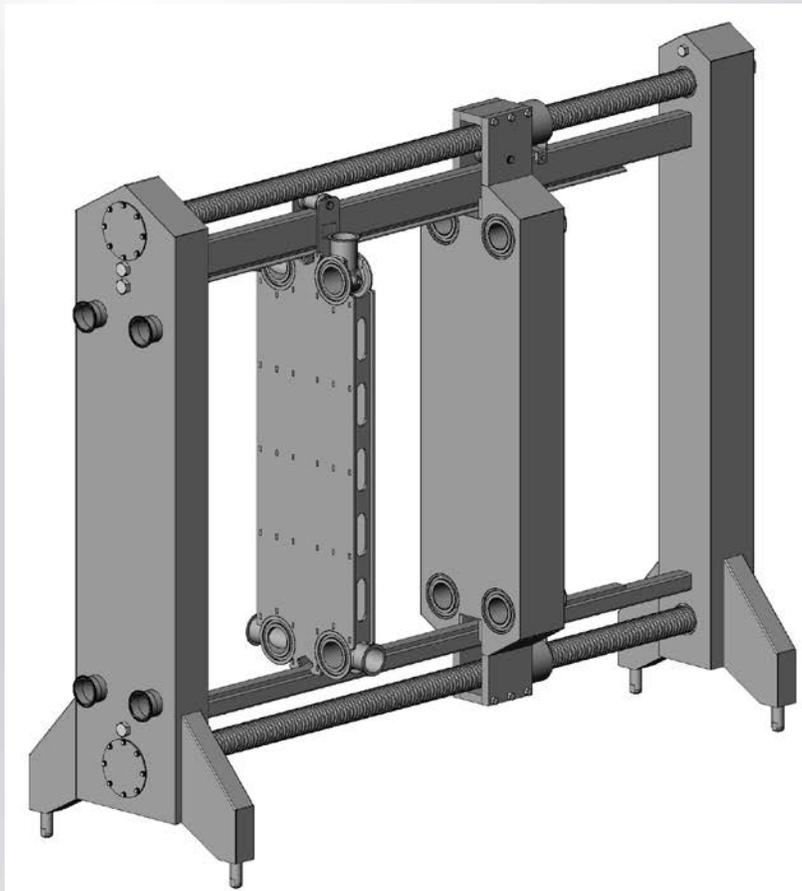




# AGC Model Pro8-MD

Operation and Maintenance Manual



Eastern (Main) +1 703-257-1660 • Western +1 503-774-7342 • Central Sales +1 847-301-6890



## Table of Contents

Scope: .....	1
Receiving and Inspection: .....	1
Frame Placement: .....	2
Normal Operation: .....	3
Closing the Frame: .....	4
Opening the Frame: .....	5
Operator Maintenance:.....	6
Parts List: .....	8
Pro8 Plate and Port Gaskets .....	9
Pro8-MD Follower Spindle Components .....	10
Pro8-MD End Support Spindle Components.....	11
Pro8-MD Fixed End Spindle Components.....	12
Pro8-MD Spindles and Rails .....	13
Pro8-MD Terminal and Port Bosses.....	14

### Eastern Factory

10129 Piper Lane  
Bristow, Virginia 20136  
Phone 703-257-1660  
Fax 703-330-7940  
800-825-8820

### Central

8400 Lakeview Parkway  
Suite 700  
Pleasant Prairie, WI 53158  
847-301-6890  
888-489-8820

### Western Factory

3109 NE 230<sup>th</sup> Avenue  
Fairview, Oregon 97024  
Phone 503-774-7342  
Fax 503-774-2550  
800-715-8820

[www.agcheattransfer.com](http://www.agcheattransfer.com)

Released 7/16/2020



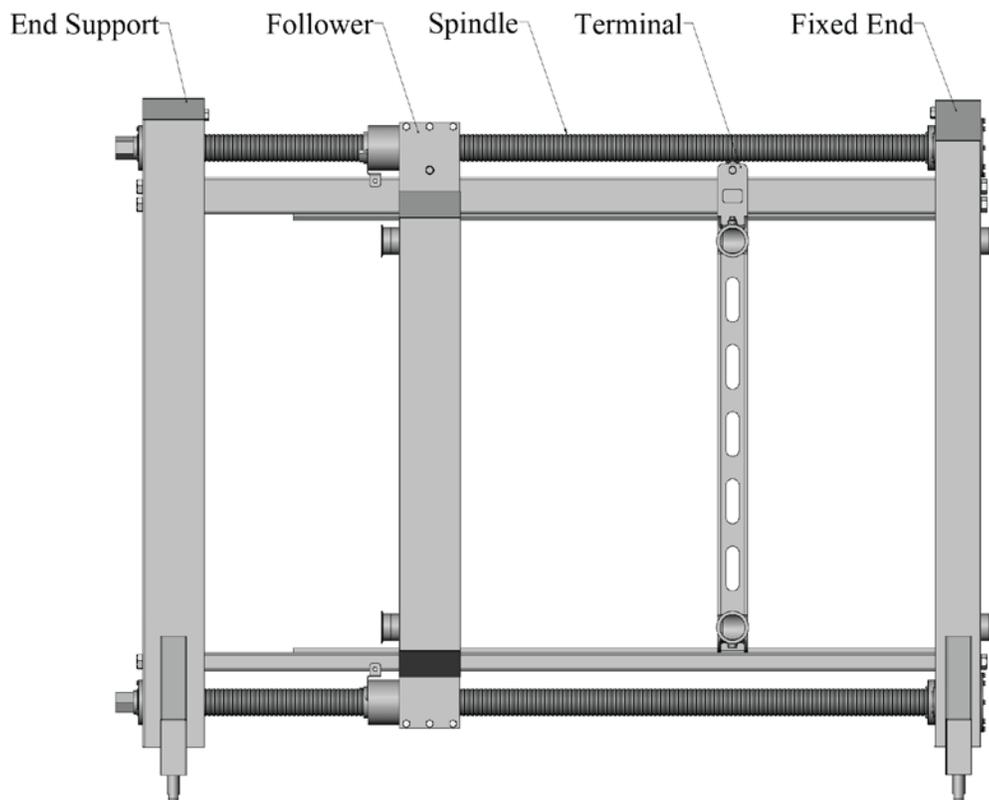
## **Scope:**

This manual is intended to be a supplement to the **AGC Heat Transfer** Proflow Operation Manual. The information provided here is for the normal operation and installation of the AGC Model Pro8-MD Plate Heat Exchanger. Please read and follow all safety instructions contained in this manual. Failure to follow all safety recommendations could result in serious injury to the operator or cause damage to the press. If you need additional information or spare parts for this or any other equipment built by AGC please contact your local AGC distributor.

## **Receiving and Inspection:**

Each AGC frame is assembled and fully tested at the factory prior to shipping. After testing, the unit is prepared for shipping. When the press leaves the factory it is in perfect condition. Upon arrival, carefully inspect the frame for any damage that may have occurred during shipping. If you notice any damage note it on the shipping paperwork and report it to AGC immediately. If possible, take photographs of the damage.

In most cases the heat exchanger is shipped assembled with the plates in a separate crate. Since heat exchangers can be very large heavy machines, only qualified and licensed forklift truck drivers should lift and position the frame. Figure 1 shows the major frame components. Depending on the application, your frame may or may not be equipped with one or more terminals.



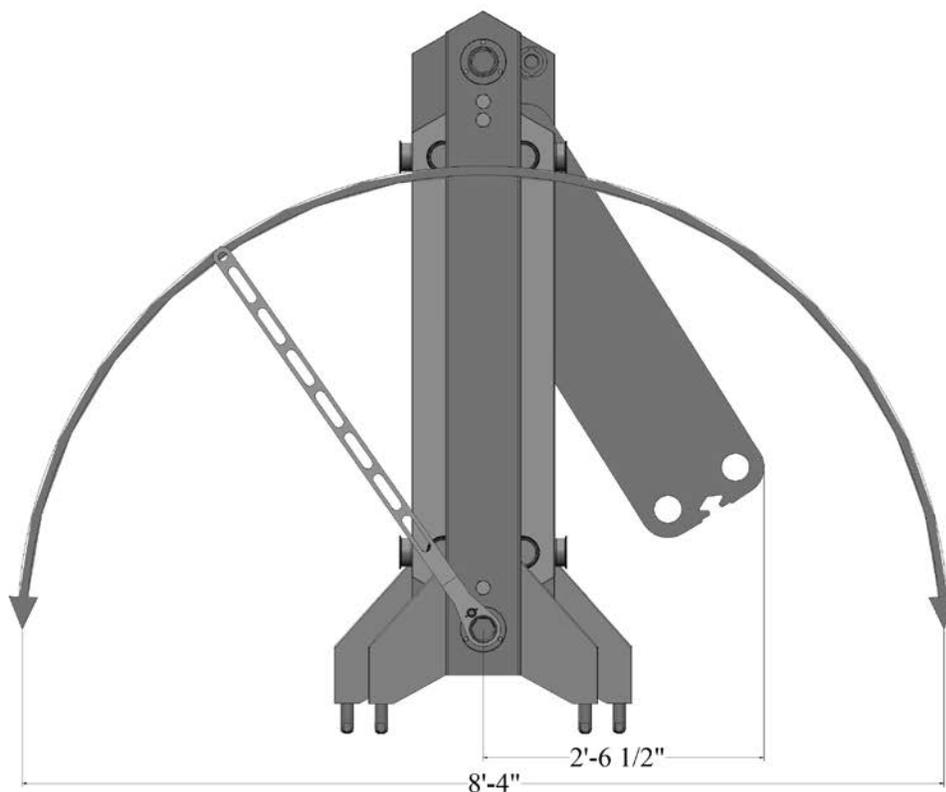
**Figure 1**  
**Major Frame Components**

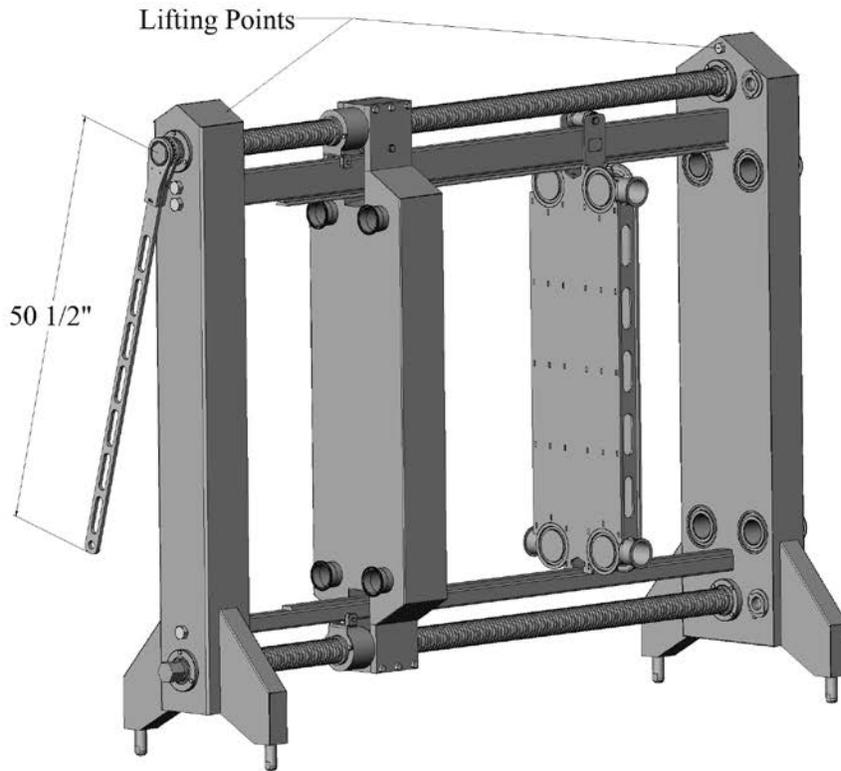
Each heat exchanger, also referred to as a frame, is shipped with a drawing package. This drawing package contains important information specific to your heat exchanger. Locate the drawing package that was shipped with your frame. If your frame was delivered without a drawing package, contact AGC or your local AGC distributor for a replacement package prior to installing the frame.

### **Frame Placement:**

When installing an AGC Pro8-MD heat exchanger it is important to select an appropriate location for the unit. The frame should be located on a firm flat surface capable of supporting the press and all of its contents when full. Ensure that adequate space is left around the frame for maintenance and plate installation/removal. Installing or removing the plates is accomplished by tilting the plate over bottom rail and around the top hanger. Plate installation requires about 2 ½ feet, as measured from the centerline of the machine, to allow the plate to swing unobstructed. See Figure 2a. This space is required on at least one side or preferably both sides of the heat exchanger. Additionally, space should be left adjacent to the end support for rotating the AGC FatBoy™ wrench to open or close the press. This is about 4 feet on each side of the end support.

The heat exchanger is designed with lifting points on the fixed end and the end support. See figure 2b. These lifting points are designed to receive a standard ¾-10 threaded fastener. To access the lifting points, remove and retain the stainless-steel hex bolts and sealing washers located above the top spindle. Install lifting rings rated for at least 3000 pounds on the fixed end and end support. Once the heat exchanger is in place it must be leveled. Each frame is equipped with adjustable ball feet to compensate for minor floor variations. To adjust the ball foot height, turn the base of the foot clockwise to raise and counter clockwise to lower. **CAUTION:** Never exceed the maximum port height dimension shown on the streaming diagram. If this dimension is exceeded, the leg could disengage from the socket and the frame could tip. Once the heat exchanger is in place and leveled, remove the lifting rings and re-install the stainless-steel hex bolts and sealing washers.





**Figure 2a 2b**  
**Recommended Space and Lifting Points**

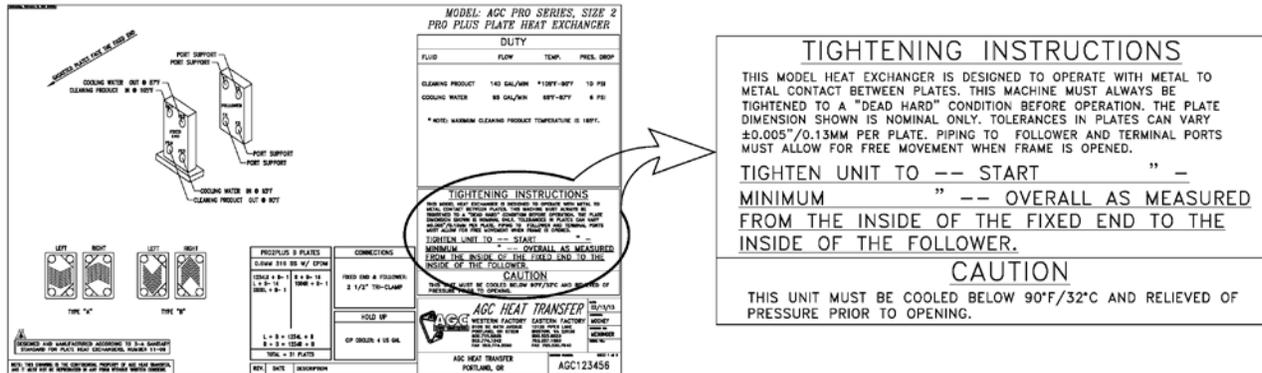
The heat exchanger can now be populated with the heat exchanger plates. Typically, the plates will be in a separate crate and stacked in reverse order to make them easy to install. The exact order of the plates is very important. This is why the drawing package is so critical to the successful installation of the press. Each plate should be checked against the streaming diagram to ensure they are installed correctly. Once the plates are installed and verified, it is safe to proceed to the next step in the initial commissioning the frame.

### **Normal Operation:**

The Model Pro8-MD Plate Heat Exchanger is a twin spindle manual closure press. The individual plates with gaskets are compressed to create a system of sealed isolated fluid channels. The compressing or closing force is developed by turning the two spindle screws. The spindle screws have a hex machined into the end to accommodate the AGC Fatboy™ wrench. This wrench is designed specifically to provide an efficient means for opening and closing of the Pro8-MD press. AGC also offers automatic closure mechanisms for the Pro8-MD. Your local AGC representative can provide details on what options are available.

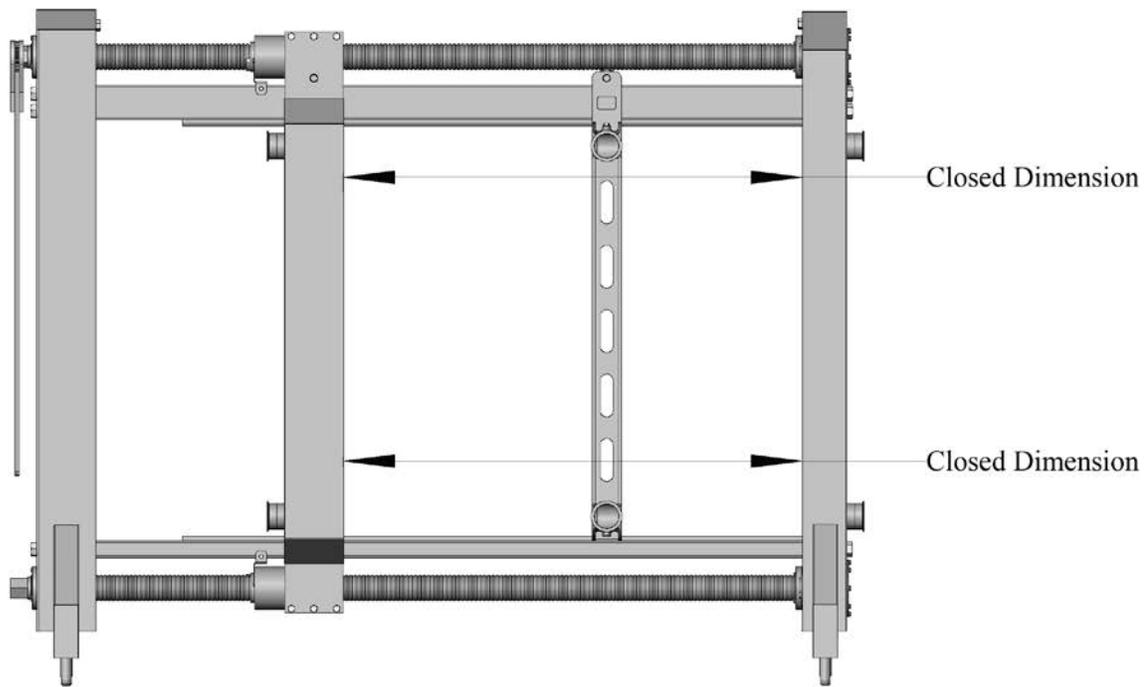
## Closing the Frame:

After all the plates and any terminals are installed into the frame it can be closed. Refer to the streaming diagram that was provided with the heat exchanger to determine the proper plate configuration and piping requirements. The plate pack must be compressed to a specific dimension for the heat exchanger to operate properly. Figure 3 shows where the dimensional information is listed on the drawing. Note: Each heat exchanger is designed for a specific application. The number of plates and a closing range for those plates will be shown on the streaming diagram shipped with that frame.



**Figure 3**  
**Streaming Diagram Sample**

To allow for manufacturing tolerances, the closed dimension is shown as a range between 'Start' and a 'Minimum' measurement. To close the frame, turn the spindle screws counterclockwise. It is important when closing the press that each screw shares the load equally. At no time should the follower be drastically closed more at the top or bottom, see figure 4. It is recommended that the follower be tightened in small increments alternating between the spindles. Closing one spindle more than the other could cause damage to the plates or to the spindle screws. As the press approaches the closed dimension the increments will be very small. When checking the heat exchanger closed dimension, it is important to check in two locations as shown in figure 4.



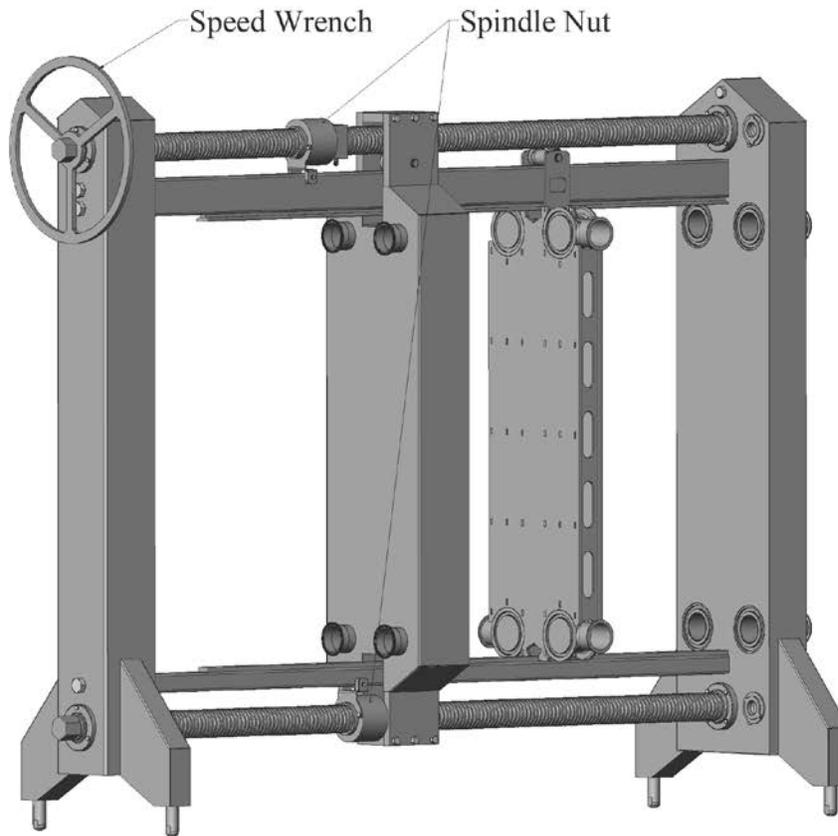
**Figure 4**  
**Tightening Dimension**

Once the heat exchanger is closed to the 'START' dimension, the heat exchanger should be pressure tested to check for leaks. If the pressure test passes, the frame is ready to be put into service. If leaks are present, the press can be closed further but never exceed the 'MINIMUM' dimension printed on the streaming diagram.

### **Opening the Frame:**

As with all plate heat exchangers, the unit must be cooled below 90° F and relieved of all internal pressure before opening. **Failure to follow this safety warning could result in serious injury to the operator or damage to the heat exchanger.**

To open the frame, rotate the spindle screws clockwise. As with closing, alternate between each spindle to ensure even opening. The follower will move back as the plate pack expands to its uncompressed state. As the follower retracts the spindle nuts eventually will disengage from the follower. Once the nuts are separated from the follower it is safe to quickly run the nut open with the optional AGC Speed Wrench (see figure 5).



**Figure 5**  
**Spindle Nut Engagement**

Note: The Speed Wrench is intended to turn the spindles when they are under light loads. To properly close the press or when opening the press from the fully compressed position, the AGC Fat Boy wrench must be used.

### **Operator Maintenance:**

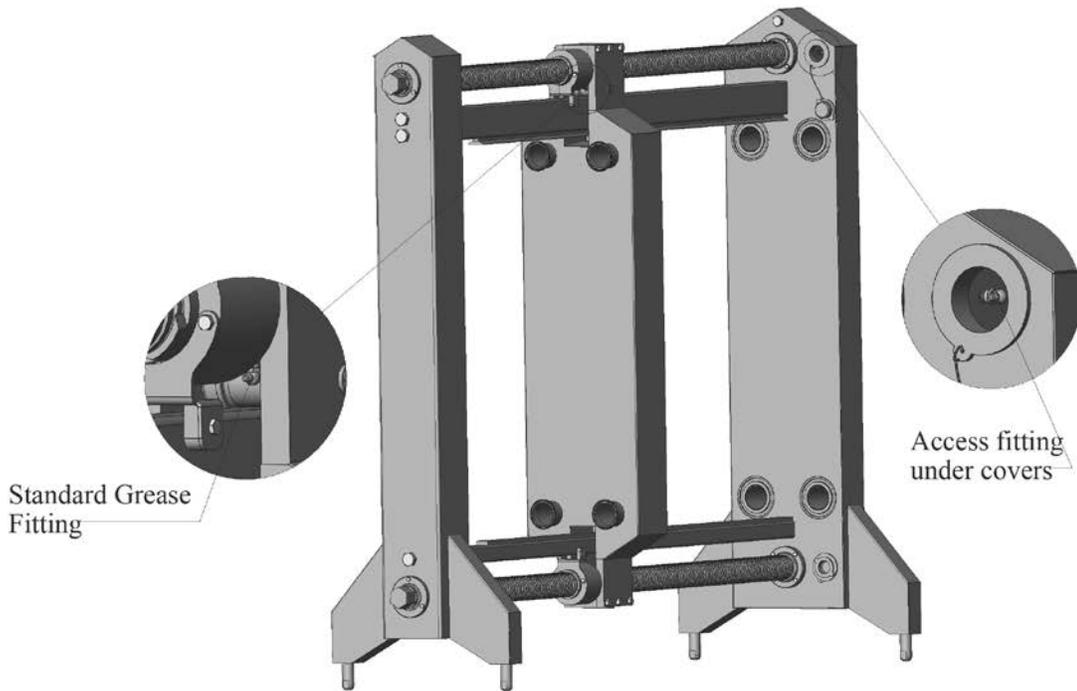
The unit is designed to operate reliably with little operator maintenance. When servicing the frame observe all lockout/tagout regulations prescribed by your local safety authority. **NOTE: NEVER OPEN THE PRESS WHEN IT IS PRESSURIZED OR WHEN HOT.** The press must be cooled below 90° F prior to opening.

### **Inspection:**

Regular monthly inspection of your heat exchanger will ensure it operates at peak performance. Visually inspect the outside of the heat exchanger regularly, each time the heat exchanger is opened the plates and gaskets should also be inspected for signs of wear or degradation. The gaskets should be pliable and when rubbed with a finger minimal blacking off should be detected. If excessive black residue can be rubbed from the face of the gasket this is a sign that the rubber is breaking down and the gaskets may need to be scheduled for replacement. AGC Heat Transfer offers complete heat exchanger inspection and testing service known as the 'Plate Check'. The Plate Check service can be scheduled through your local AGC distributor.

**Lubrication:**

The Pro8-MD has lube points that should be serviced regularly. Figure 6 shows the locations of the lube points.



**Figure 6  
Lube Points**

There are lube points on the fixed end as well as on the follower. Each have a slightly different maintenance schedule.

The follower is fitted with drive nuts that have a feature that applies grease to the spindle threads every time the spindles are turned. Because of this feature, the follower requires more frequent maintenance than the fixed end. The more often the press is opened and closed the more often the grease needs to be replenished in the follower drive nuts. The grease fittings are located on the bronze drive nuts. AGC Heat Transfer recommends the unit be lubricated with a high-quality food grade grease.

The fixed end has lube points for the heavy duty thrust bearings. The lube points are located behind the grey silicon access covers shown in figure 6. As with the follower, use only a high-quality food grade grease to lubricate the bearings.

## **Parts List:**

Replacement parts for the Model Pro8-MD can be ordered from AGC or your local AGC distributor. Most parts are in stock and can be shipped within 24 hours from time of order. Some components have had engineering revisions, so when ordering spare parts be sure to have your unit specific information available. Contact information is provided below or visit our website for more information:

### **Eastern Factory**

10129 Piper Lane  
Bristow, Virginia 20136  
Phone 703-257-1660  
Fax 703-330-7940  
800-825-8820

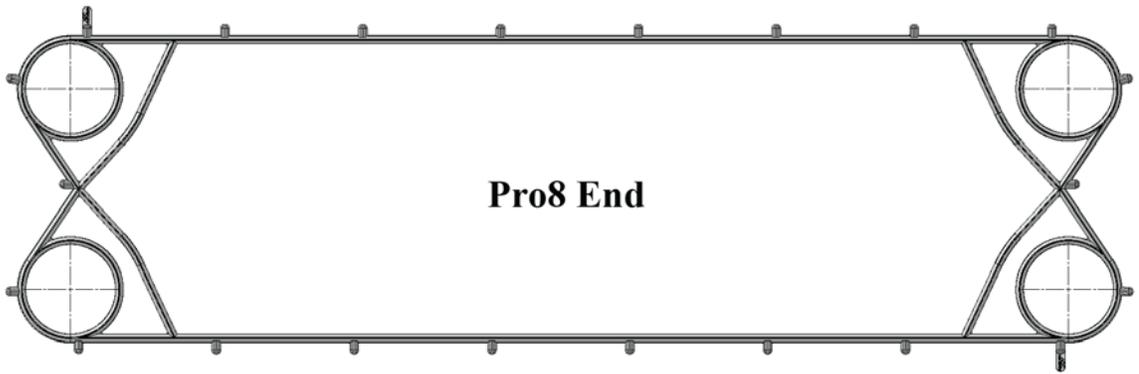
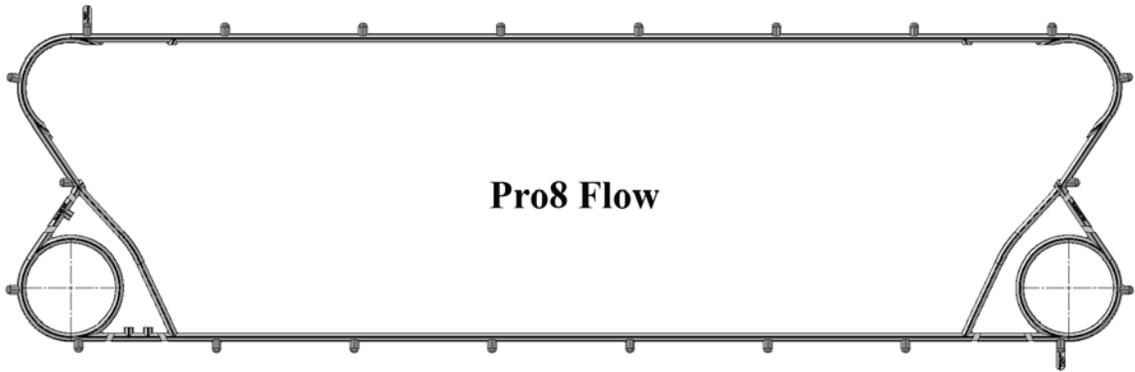
### **Central**

8400 Lakeview Parkway  
Suite 700  
Pleasant Prairie, WI 53158  
847-301-6890  
888-489-8820

### **Western Factory**

3109 NE 230<sup>th</sup> Avenue  
Fairview, Oregon 97024  
Phone 503-774-7342  
Fax 503-774-2550  
800-715-8820

**[www.agcheattransfer.com](http://www.agcheattransfer.com)**



Item	Part Number	Description
1a	AGPRO801E	Pro8 Flow Gasket EPDM
1b	AGPRO801N	Pro8 Flow Gasket NBR
2a	AGPRO802E	Pro8 End Gasket EPDM
2b	AGPRO802N	Pro8 End Gasket NBR
3a	ALC803E	Pro8 Port Gasket EPDM
3b	ALC803N	Pro8 Port Gasket NBR

### Pro8 Plate and Port Gaskets



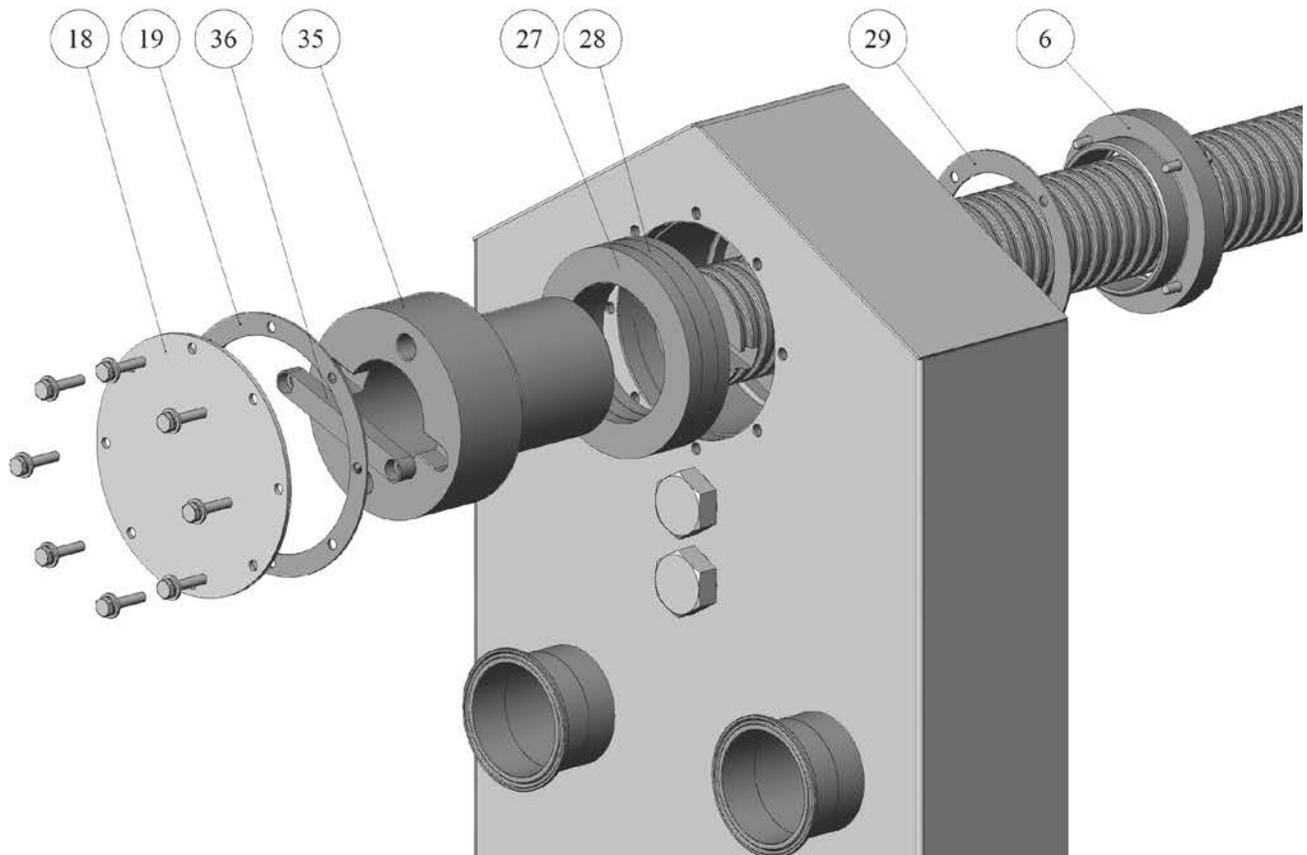
Item	Quantity per Frame	Part Number	Description
75	2	11019881	Pro8-MD Spindle Nut
76	4	11019882	Pro8-MD Thread Cleaner
77	2	11019883	Pro8-MD Follower Nut Lock
78	4	11019884	Pro8-MD Lock Nut Brush

### Pro8-MD Follower Spindle Components



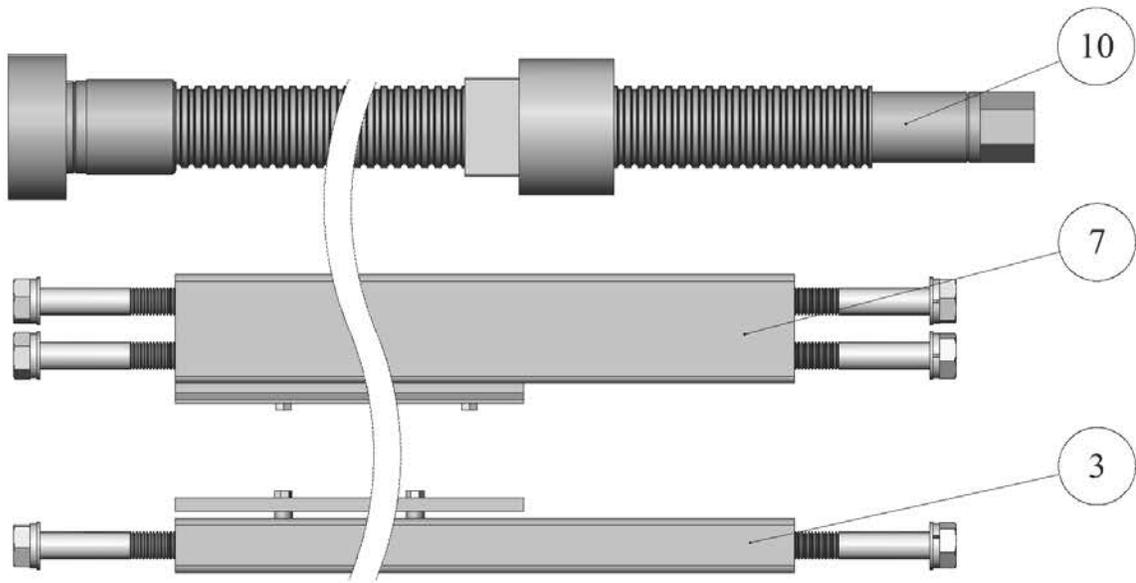
<b>Item</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Description</b>
20	6	30000376	Hex Head Cap Screw SS
64	2	11019846	Pro8-MD End Support Retainer
67	2	11019849	Pro8-MD End Support Bushing
80	2	30000381	Spiral External Snap Ring

**Pro8-MD End Support Spindle Components**



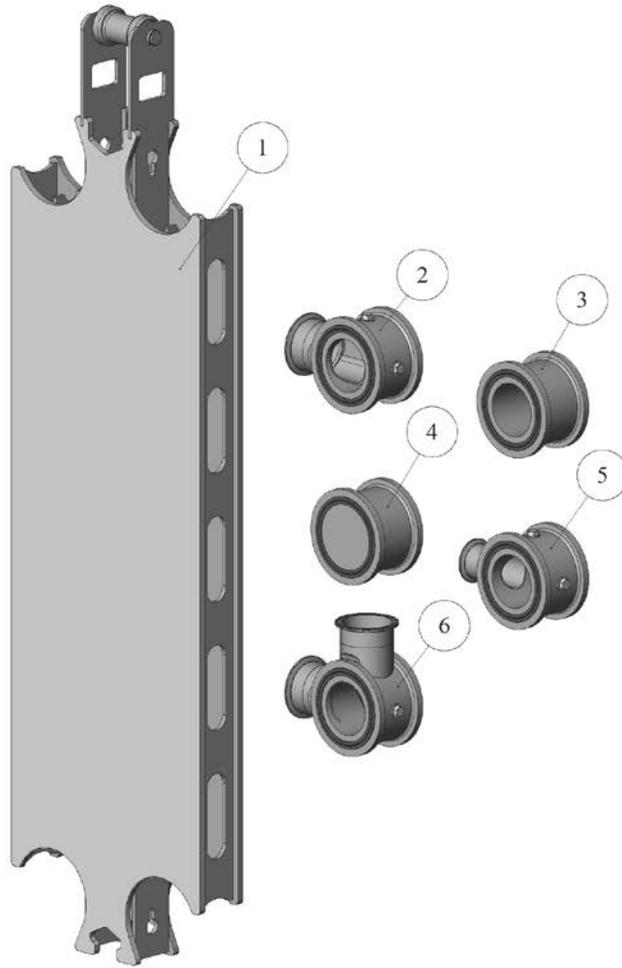
Item	Quantity per Frame	Part Number	Description
6	2	11019829	Pro8-MD Spindle Bearing Ring
18	2	11019835	Pro8-MD Fixed End Spindle Cover
19	2	11019887	Pro8-MD Fixed End Spindle Cover Gasket
27	4	11019977	Pro8-MD Thrust Bearing Race
28	2	11019976	Pro8-MD Cylindrical Roller Thrust Bearing
29	2	11019837	Pro8-MD Fixed End Spindle Gasket
35	2	11019891	Pro8-MD Spindle Lock Assy
36	2	11019947	Pro8-MD Spindle Lock Key

### Pro8-MD Fixed End Spindle Components



<b>Pro8-MD Spindle and Rail</b>			
<b>Lower Rail Assy</b>		<b>Length</b>	<b>Part Number</b>
3a	Size 1	58"	11019911
3b	Size 2	82"	11019912
3c	Size 3	106"	11019913
3d	Size 4	130"	11019914
3e	Size 5	154"	11019915
<b>Upper Rail Assy</b>		<b>Length</b>	<b>Part Number</b>
7a	Size 1	58"	11019931
7b	Size 2	82"	11019932
7c	Size 3	106"	11019933
7d	Size 4	130"	11019934
7e	Size5	154"	11019935
<b>Spindle (2 per Frame)</b>		<b>Length</b>	<b>Part Number</b>
10a	Size 1	80"	11019971
10b	Size 2	104"	11019972
10c	Size 3	128"	11019973
10d	Size 4	152"	11019974
10e	Size 5	176"	11019975

### Pro8-MD Spindles and Rails



Item	Quantity	Part Number	Description
1	1	11019980	Pro8 Terminal Assembly
2	1-4	11019987	Pro8 Port Boss Assy Single
3	1-4	11019990	Pro8 Port Boss Assy Thru
4	1-4	11019989	Pro8 Port Boss Assy Blank
5	1-4	11019988	Pro8 Port Boss Assy 2" Pressure Switch
6	1-4	11019985	Pro8 Port Boss Assy Double

### Pro8-MD Terminal and Port Bosses

# AGC NEW UNITS

## Proflow™ Sanitary Frames

- Manufactured by AGC in USA
- Over 40 frame models to choose from
- Built to 3A standards



Heavy Duty — AR51-M  
Expandable Version



HYDRAULIC END OPTION  
easy open and close — proven design



Tie Bar Frames

PRO31  
Hydraulic Frame

# AGC REPLACEMENT PLATES

Latest technology at competitive prices



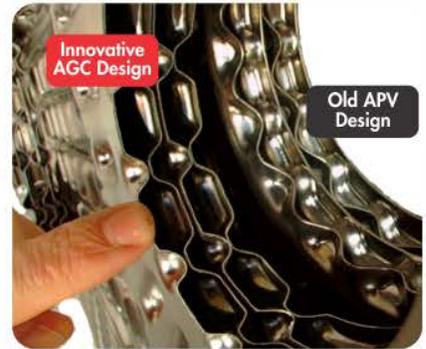
Up to  
26%  
Pressure drop  
reduction

Energy  
& Space  
Savings  
Version

Plate Pack Upgrades —  
Upgrade your existing APV Plate Pack.  
Plate in stock ready for shipment!



AGC Snap-in Gasket



Innovative  
AGC Design

Old APV  
Design

Reduced Restriction Inlet —  
just one of many improvements

sanitary™  
**proflow**  
S E R I E S



# AGC GASKETS & SERVICE

Regasketing services for every  
make and model — **OEM quality**



PlateCheck

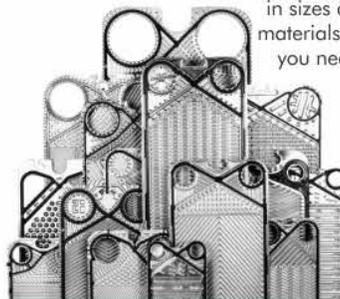
Meets  
3A accepted  
practices for  
testing

Gaskets for all Makes & Models

## Field Leak Check Service

- The only all-inclusive Field Leak Check Service
- Most units can be checked in 2 to 4 hours
- Our method checks ALL the plates in the unit as well as gaskets, frame condition and CIP response as recommended by 3A accepted practices for testing HTST & HHST systems

Field Leak Check is fast and easy



A wide variety  
of gaskets/plates  
in sizes and  
materials that  
you need



Gaskets and spares  
IN STOCK!





sanitary™  
**proflow**  
SERIES



*“Building the best, servicing the rest”™*

AGC Heat Transfer, Inc. is the leading supplier of sanitary plate heat exchangers in North America, manufacturing plate heat exchangers specifically designed for sanitary applications. AGC offers complete heat exchangers services including new frames as well as upgrade plate packs, gaskets and spares that fit other brands. Frames available are tie-bolt, twin spindle and hydraulic (automatic) closure. AGC offers Platecheck™ Field Leak Testing of plate heat exchangers that meets the 3-A sanitary standard.



**Western**

3109 NE 230th Avenue  
Fairview, OR 97024  
+1.503.774.7342  
+1.800.715.8820  
FAX +1.503.774.2550

**Central**

8400 Lakeview Parkway  
Suite 700  
Pleasant Prairie, WI 53158  
+1.847.301.6890  
+1.888.489.8820

**Eastern**

10129 Piper Lane  
Bristow, VA 20136  
+1.703.257.1660  
+1.800.825.8820  
FAX +1.703.330.7940