

## Specifications

### 46 Series Valve (Lifting Solenoid)

#### Operating Data

|                                   |  |
|-----------------------------------|--|
| Fluids:                           | Air or Inert Gas   |
| Lubrication:                      | Not Required. But if used, select a medium aniline point oil (between 180°F to 210°F). |
| Safe Operating Temperature Range: | 0° to 120°F (-18° to 50°C)   |
| Pressure Range:                   | Vacuum to 120 PSI  |
| Coils:                            | General Purpose Class A, Continuous duty.  |
| Coil Leads:                       | #22 AWG x 18", Other lengths available   |
| Solenoid:                         | Single Operator Only (Double Solenoid is not available)                                |

#### Flows (Cv - Up to)

Average of All Ports

#### Wattage

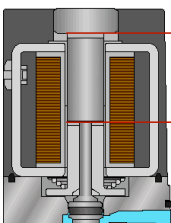
|             |      |      |      |
|-------------|------|------|------|
| Inline (Cv) | 1.8w | 2.4w | 5.4w |
|             | 0.20 | 0.20 | 0.30 |

Higher flow rates available - Consult Factory

#### Special Applications

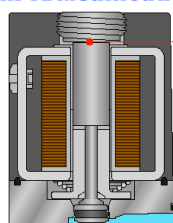
The balanced poppet design facilitates using the same valve for many functions. A valve may be used for pressure and/or vacuum or plugged for 3 Way operation.

#### Current Solenoid Technology



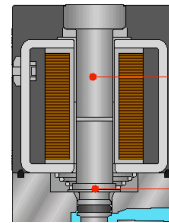
Excess Armature Movement in Solenoid

#### Current Solenoid Technology RPTe Modification



Dialled in Screw Eliminates Excess Armature Travel

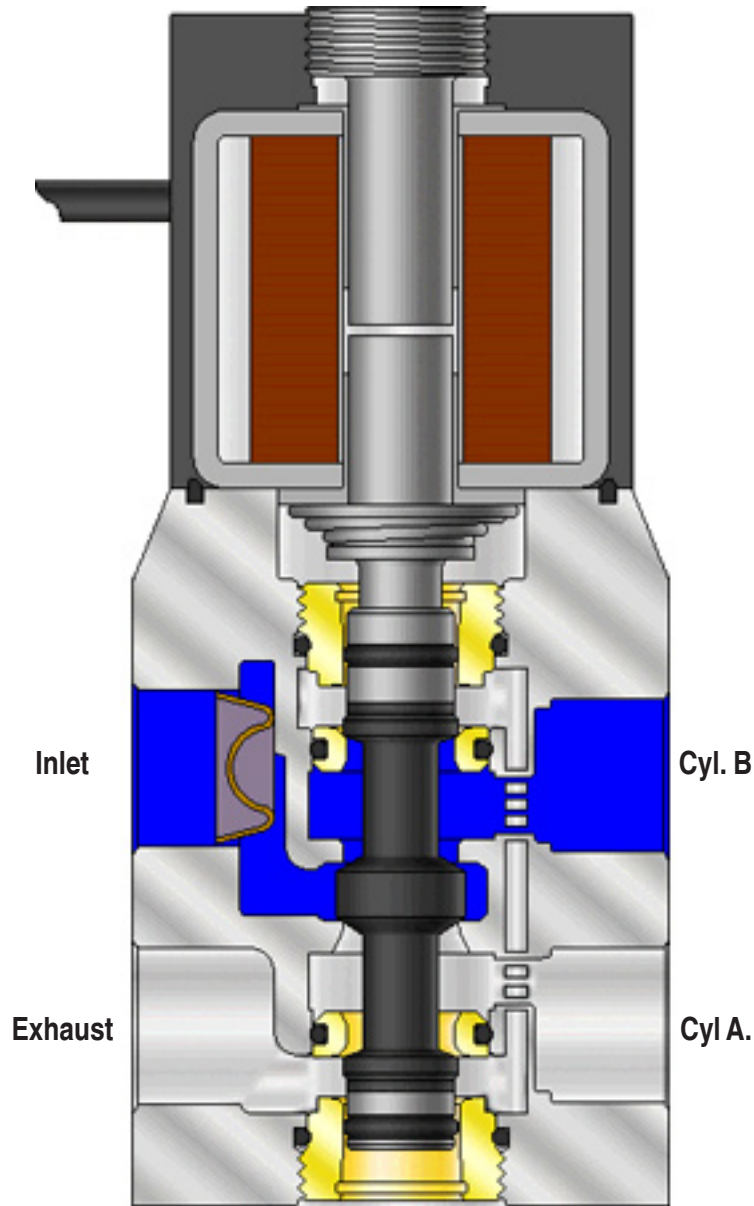
#### New Lifting Solenoid Technology



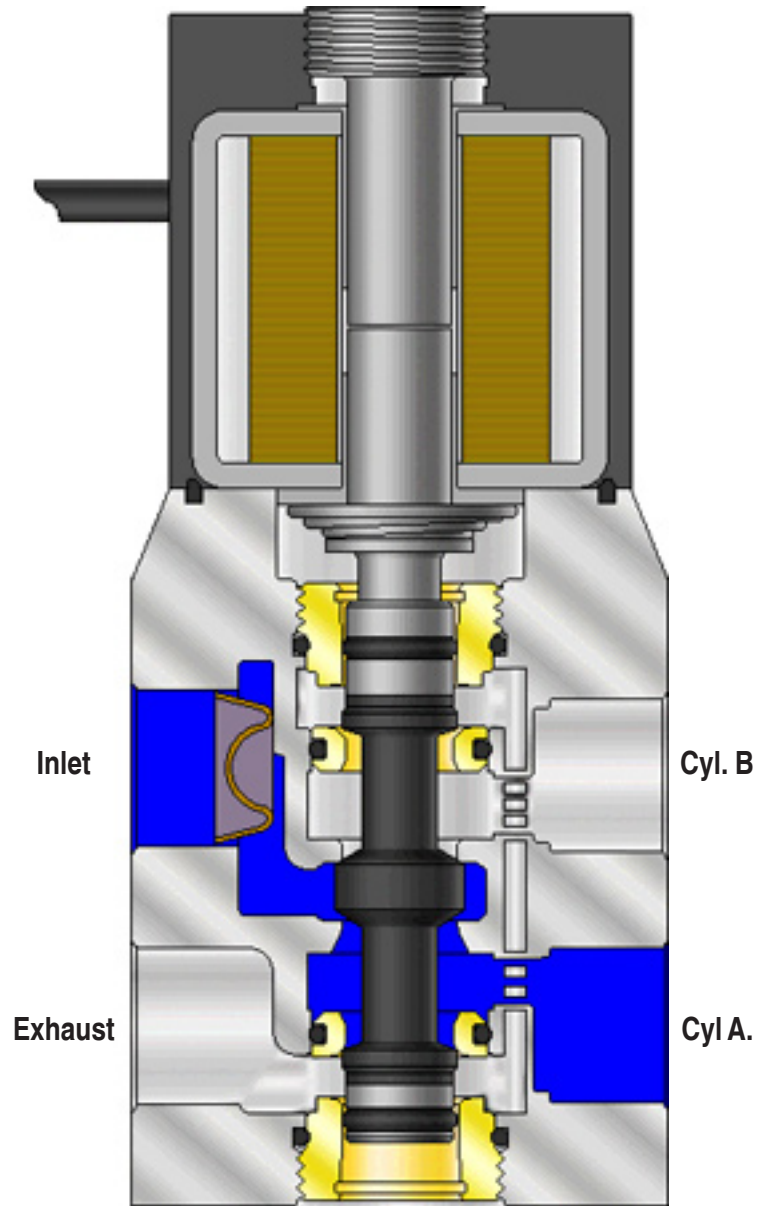
Fixed Pole Piece

One Piece Armature Poppet Design

# MAC 46 Series with Lifting Solenoid

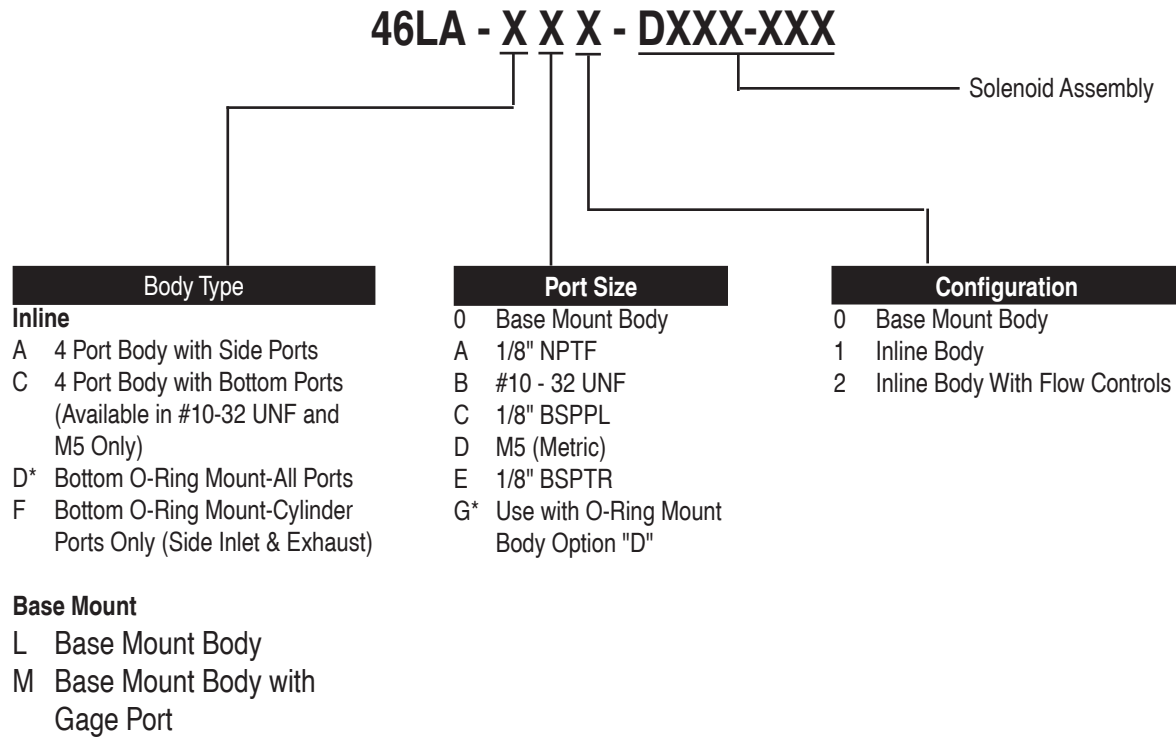


De-Energized



Energized

# How to Order 46L Series (Lifting Solenoid)



Note: Base Mount Body used with circuit bars

# How to Order 46L Series Lifting Solenoid Assembly

**D XX X - X XX**

## Voltage

|     |                |     |                |
|-----|----------------|-----|----------------|
| DA  | 24 VDC (5.4W)  | DB  | 12 VDC (5.4W)  |
| DC  | 12 VDC (7.5W)  | DD  | 24 VDC (7.3W)  |
| DE* | 12 VDC (12.7W) | DF* | 24 VDC (12.7W) |
| DJ  | 28 VDC (5.2W)  | DK  | 110 VDC (5.8W) |
| DL  | 64 VDC (6W)    | DM  | 36 VDC (5.3W)  |
| DN  | 6 VDC (6W)     | DP  | 48 VDC (5.8W)  |
| DR  | 90 VDC (6.6W)  | DS  | 110 VDC (7.3W) |
| DT  | 75 VDC (5.6W)  | EA  | 12 VDC (6.0W)  |
| EB  | 220 VDC (4.2W) | ED  | 24 VDC (4.2W)  |
| EE  | 12 VDC (4.2W)  | EJ  | 24 VDC (9.3W)  |
| EM  | 120 VDC (6.2W) | ES* | 12 VDC (9.5W)  |
| ET  | 24 VDC (3.0W)  | EW  | 24 VDC (8.0W)  |
| FA  | 12 VDC (1.8W)  | FB  | 24 VDC (1.8W)  |
| FC  | 10 VDC (2.2W)  | FE  | 12 VDC (2.4W)  |
| FF  | 24 VDC (2.4W)  | FK  | 48 VDC (1.9W)  |
| FL  | 18 VDC (2.4W)  | GD  | 220 VDC (7.3W) |
| GE  | 6 VDC (9.0W)   | GF  | 15 VDC (5.0W)  |
| GG  | 9 VDC (9.0W)   |     |                |

## Lead Wire Length

|   |                  |
|---|------------------|
| 0 | No Lead Wire     |
| A | 18"              |
| B | 24"              |
| C | 36"              |
| D | 48"              |
| E | 72"              |
| F | 96"              |
| J | External Plug-In |
| P | Plug-In          |

Notes : Use "J" with J, K, T, & P Connectors  
Use "P" with FM & FN Connectors

## Manual Operator

|   |                                |
|---|--------------------------------|
| 0 | No Operator                    |
| 1 | Non-Locking<br>Manual Operator |

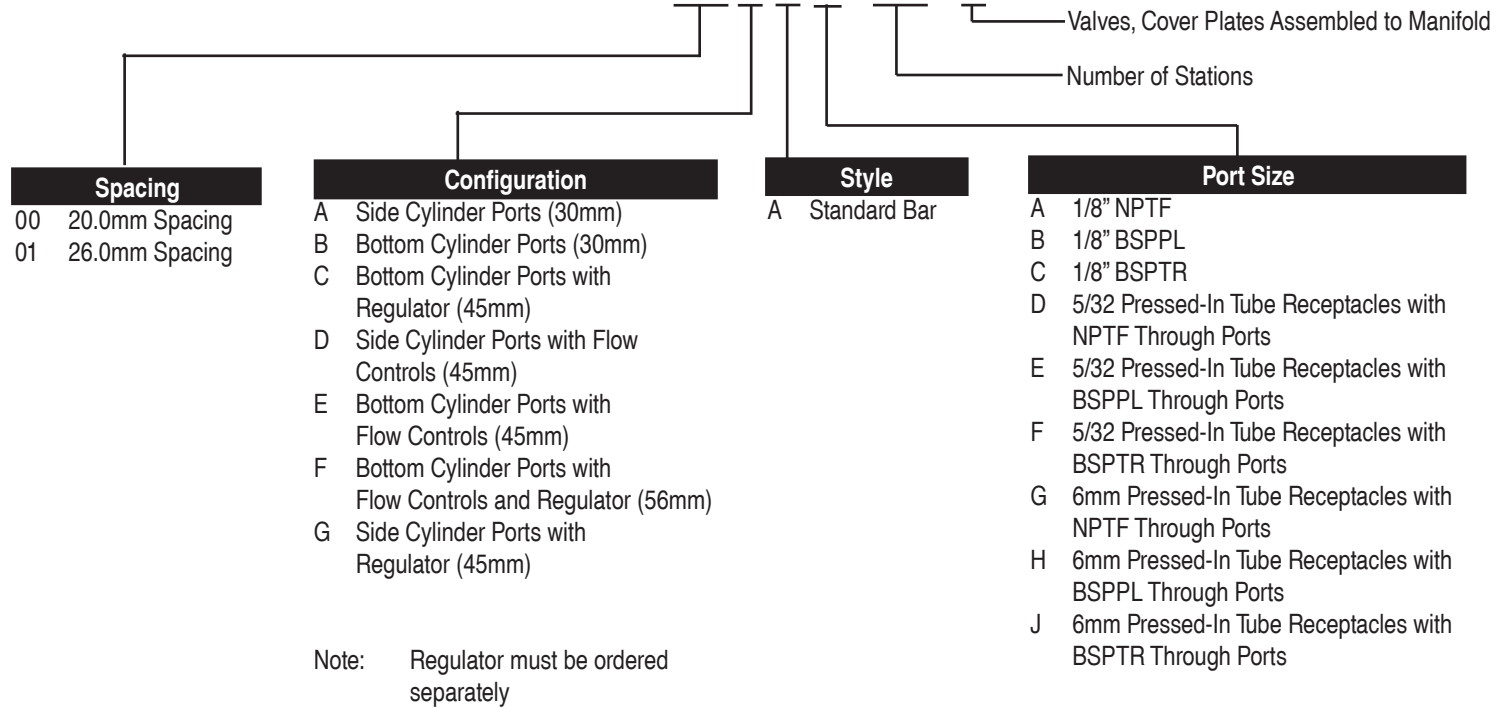
## Electrical Connectors

|    |   |
|----|---|
| BA | Grommet (Flying Leads)                        |
| BK | Grommet with diode (Flying Leads)             |
| BM | Plug-in (with leads)                          |
| BN | Plug-in with diode (with leads)               |
| CA | Conduit 1/2"                                  |
| CM | Metal conduit 1/2"                            |
| CN | Metal conduit with ground 1/2"                |
| FM | Plug-in (For ECD Bar)                         |
| FN | Plug-in with diode (for ECD Bar)              |
| JB | Rectangular plug-in                           |
| JD | Rectangular plug-on with light                |
| JM | Rectangular male only                         |
| KA | Mini plug-in                                  |
| KB | Mini plug-in with diode                       |
| KD | Mini plug-in with light                       |
| KE | Mini plug-in with light & diode               |
| KG | Mini plug-in with LED light & diode           |
| KJ | Mini plug-in male only                        |
| KK | Mini plug-in male only with diode             |
| TA | Dual tabs (.110) with receptacles             |
| TB | Dual tabs with diode & receptacles            |
| TD | Dual tabs with light & receptacles            |
| TE | Dual tabs with light, diode & receptacles     |
| TJ | Dual tabs (.110) plain                        |
| TK | Dual tabs with diode (no receptacles)         |
| TM | Dual tabs with light (no receptacles)         |
| TN | Dual tabs with light & diode (no receptacles) |
| PA | Pico  |

\* MOD CLSF

# How to Order 46L Series EBM Circuit Bar (Non Plug-In)

**EBM46LA - XX X X X - XX - 9**

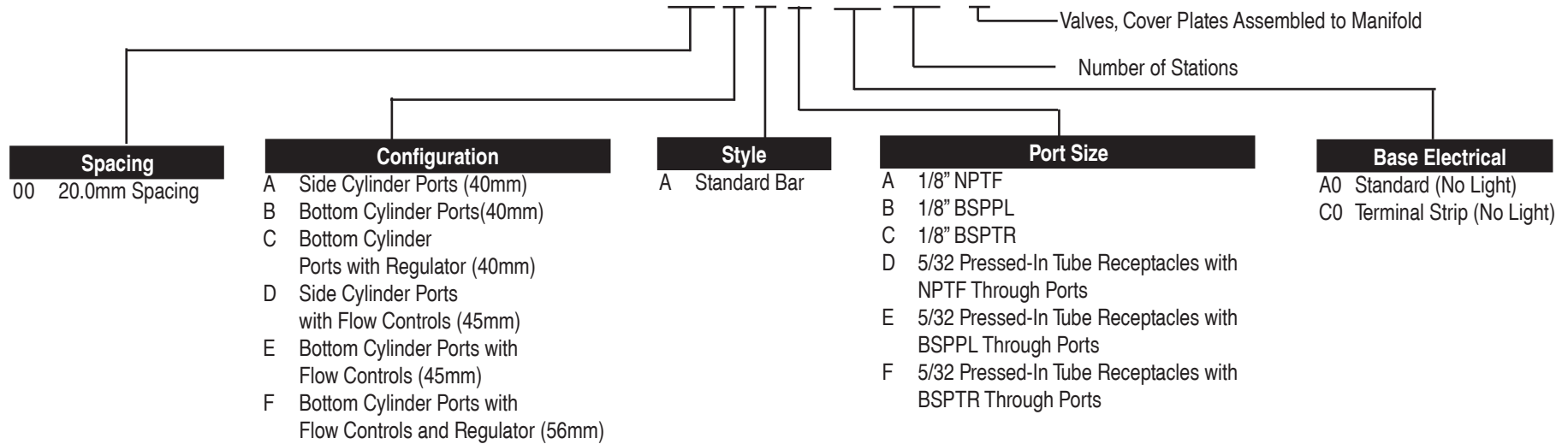


Dimensions (XXmm) indicate Bar Profile

**Replacement Parts and Accessories**  
M-46015 Valve Blanking Plate

# How to Order 46L Series ECD Circuit Bar (Plug-In)

**ECD46LA - XX X X X - XX XX - 9**



Note: Regulator must be ordered separately

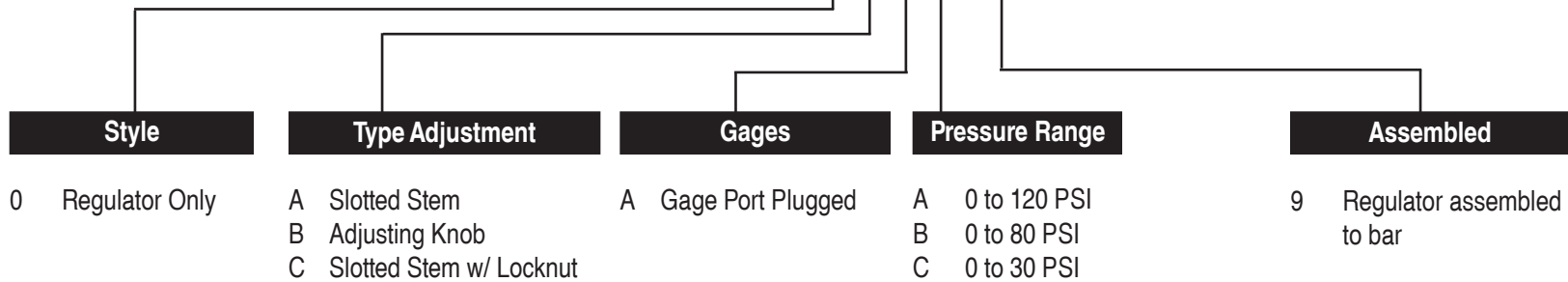
Dimensions (XXmm) indicate Bar Profile

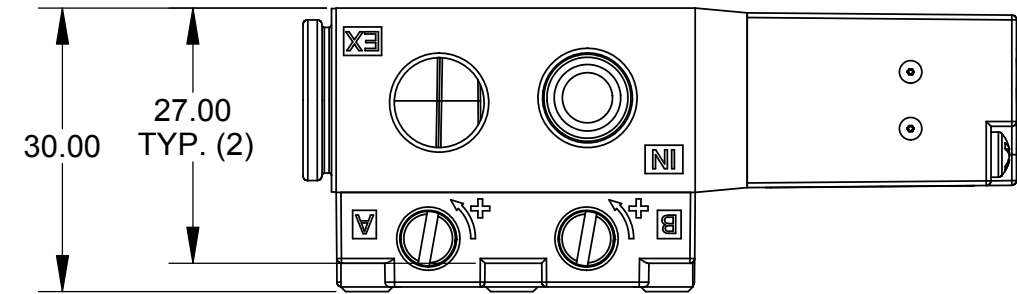
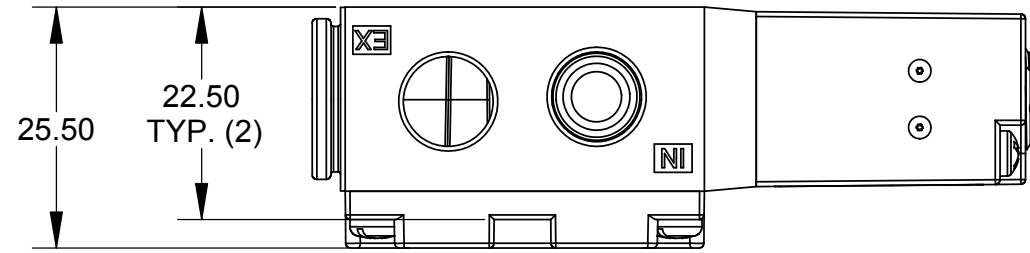
## Replacement Parts and Accessories

63299 Wire Connector Protector  
M-46015 Valve Blanking Plate

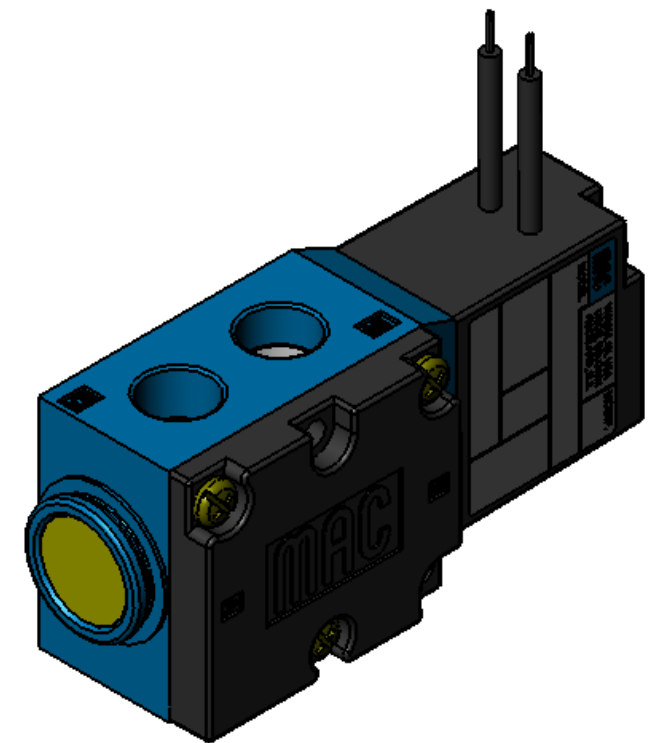
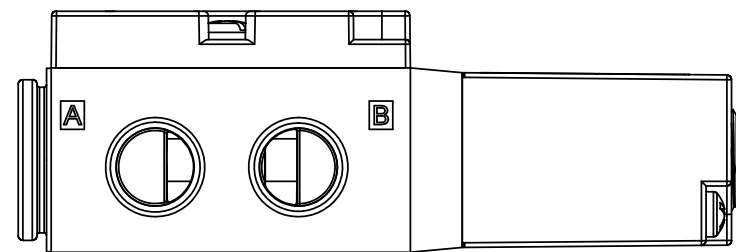
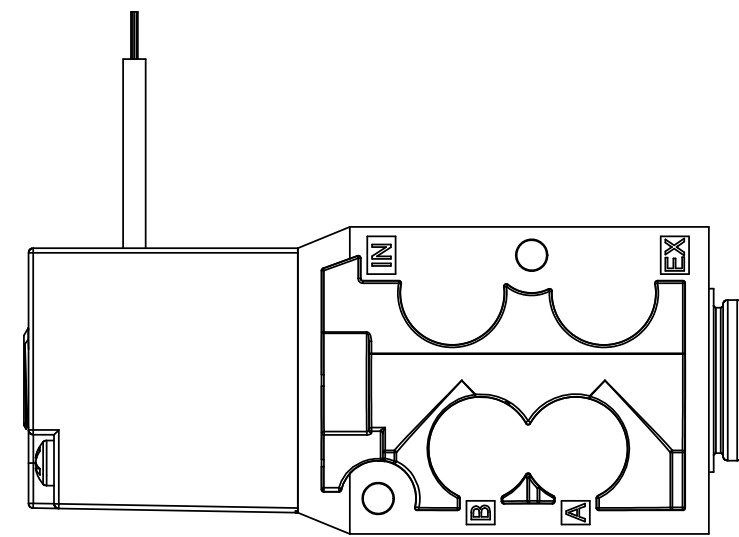
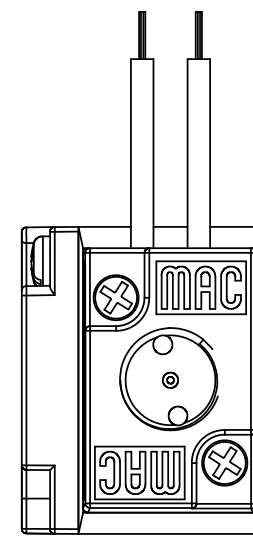
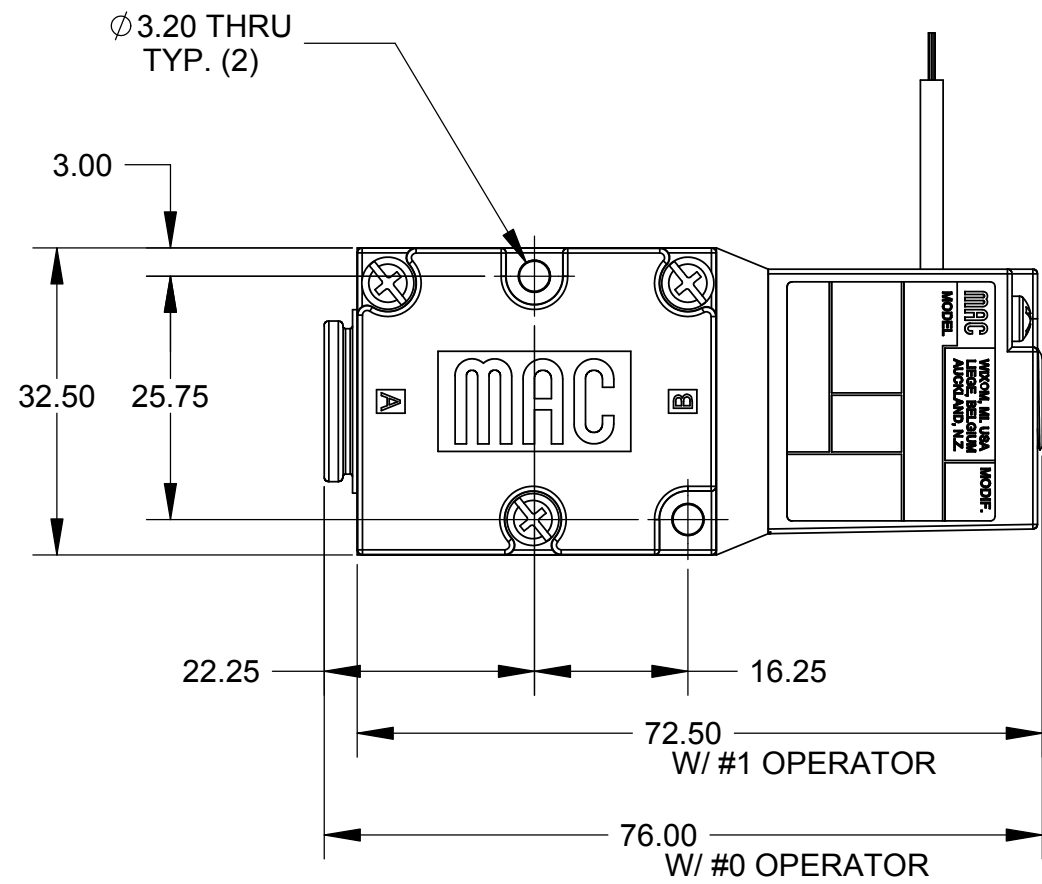
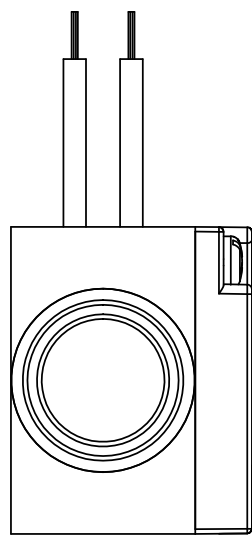
# How to Order 46 Series Regulator

PR46A - X X X X - X



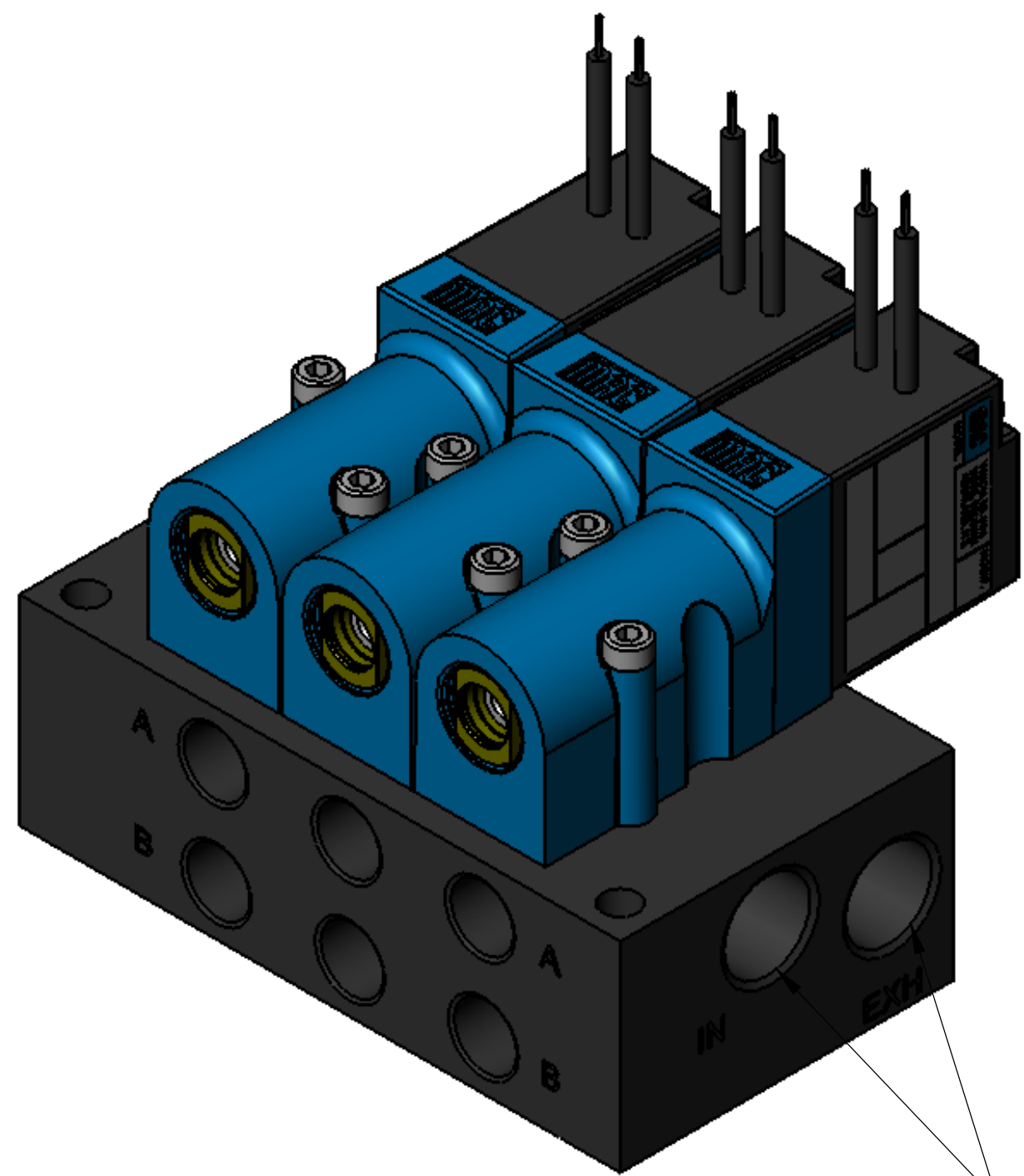


SHOWN WITH FLOW CONTROLS



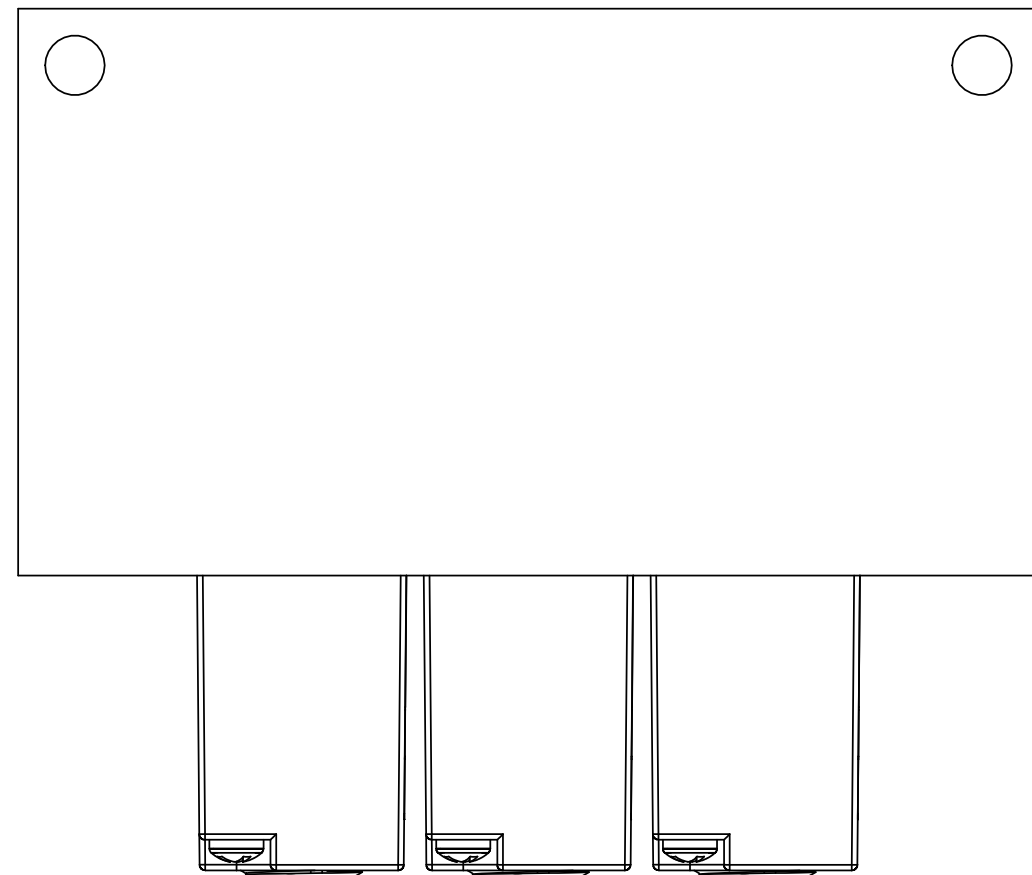
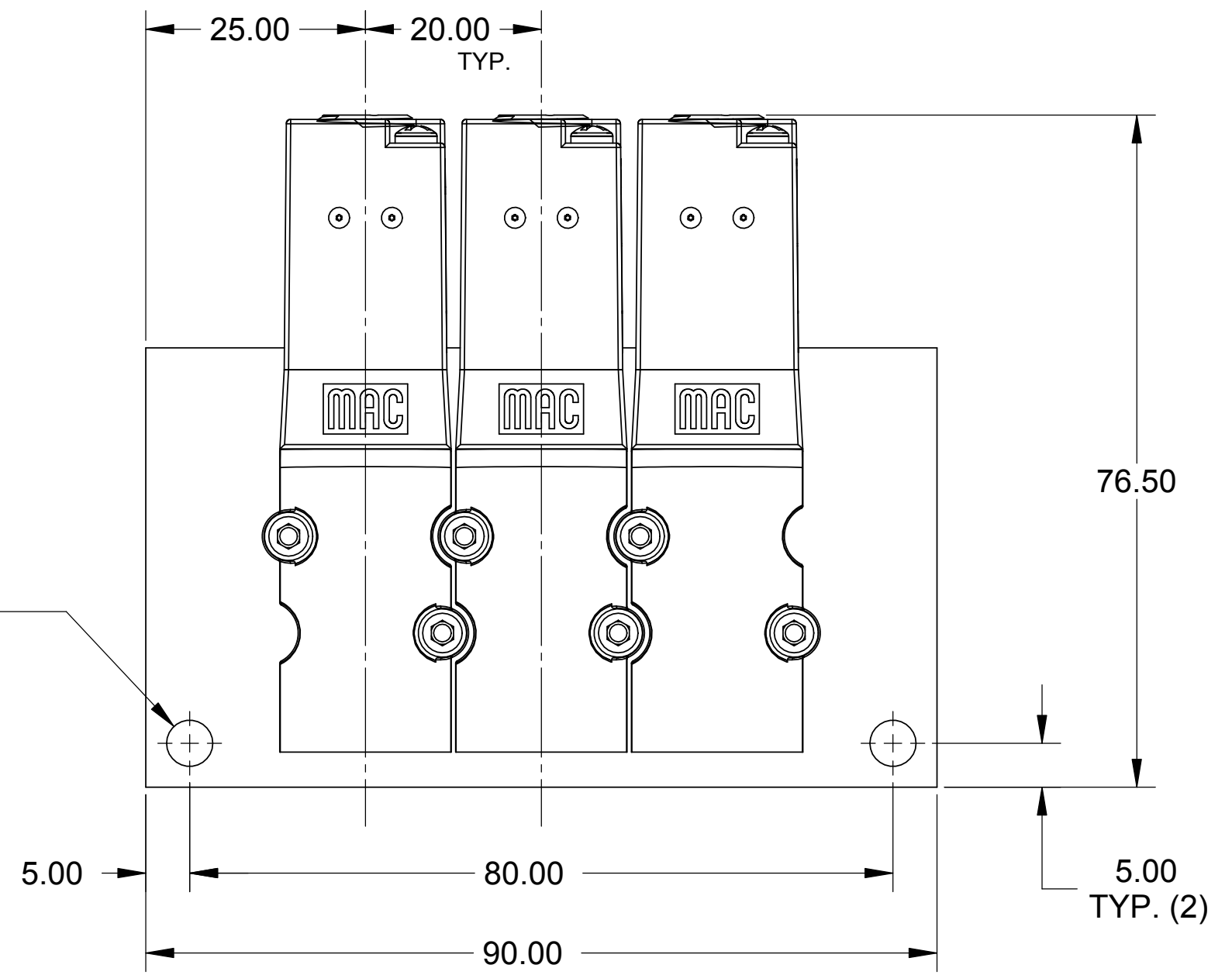
# 46L INLINE VALVE



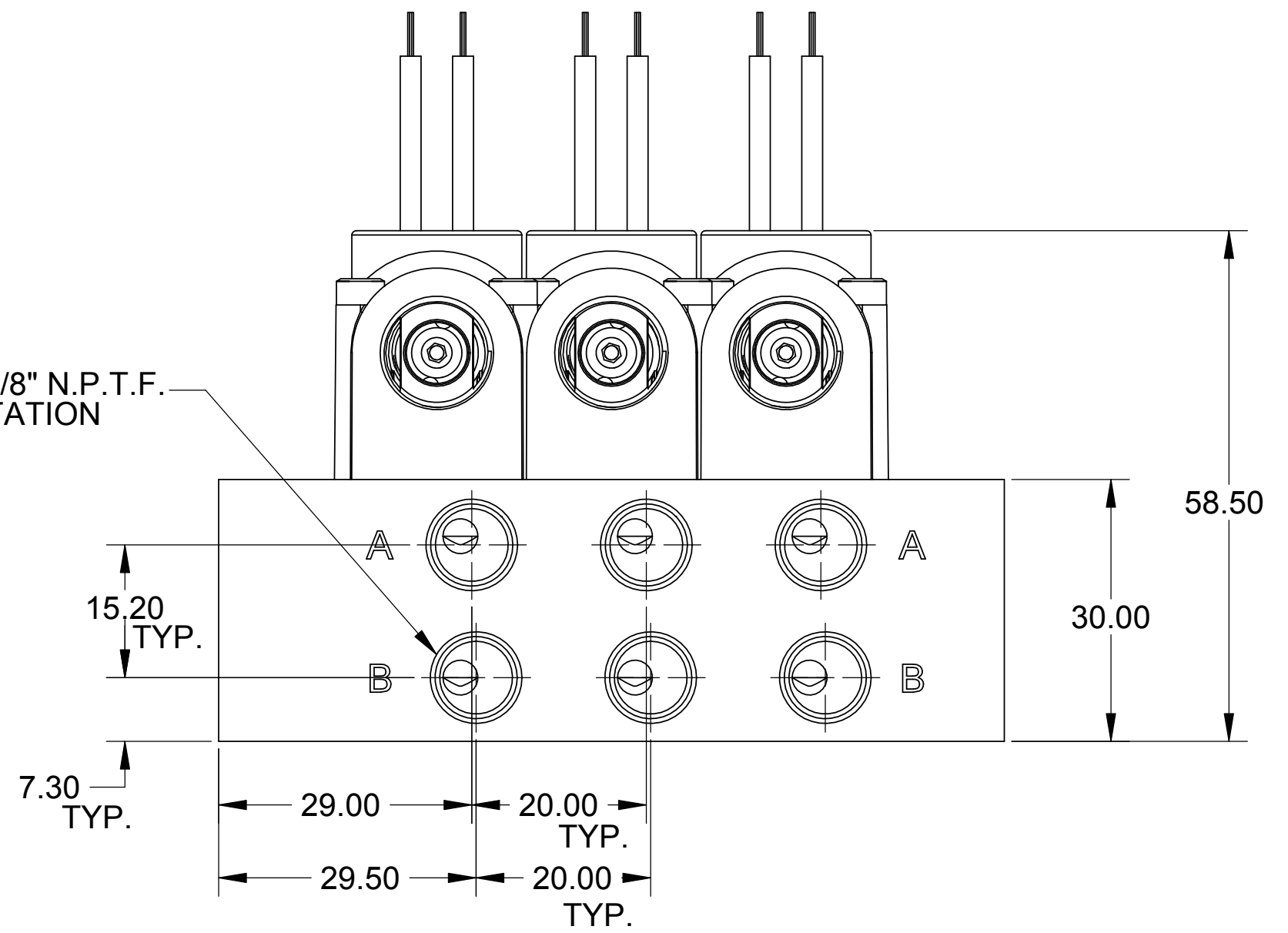


1/4" - 18 N.P.T..F TAP TO GAGE  
TYP. (2) BOTH ENDS

Ø 5.25 THRU  
TYP. (2)



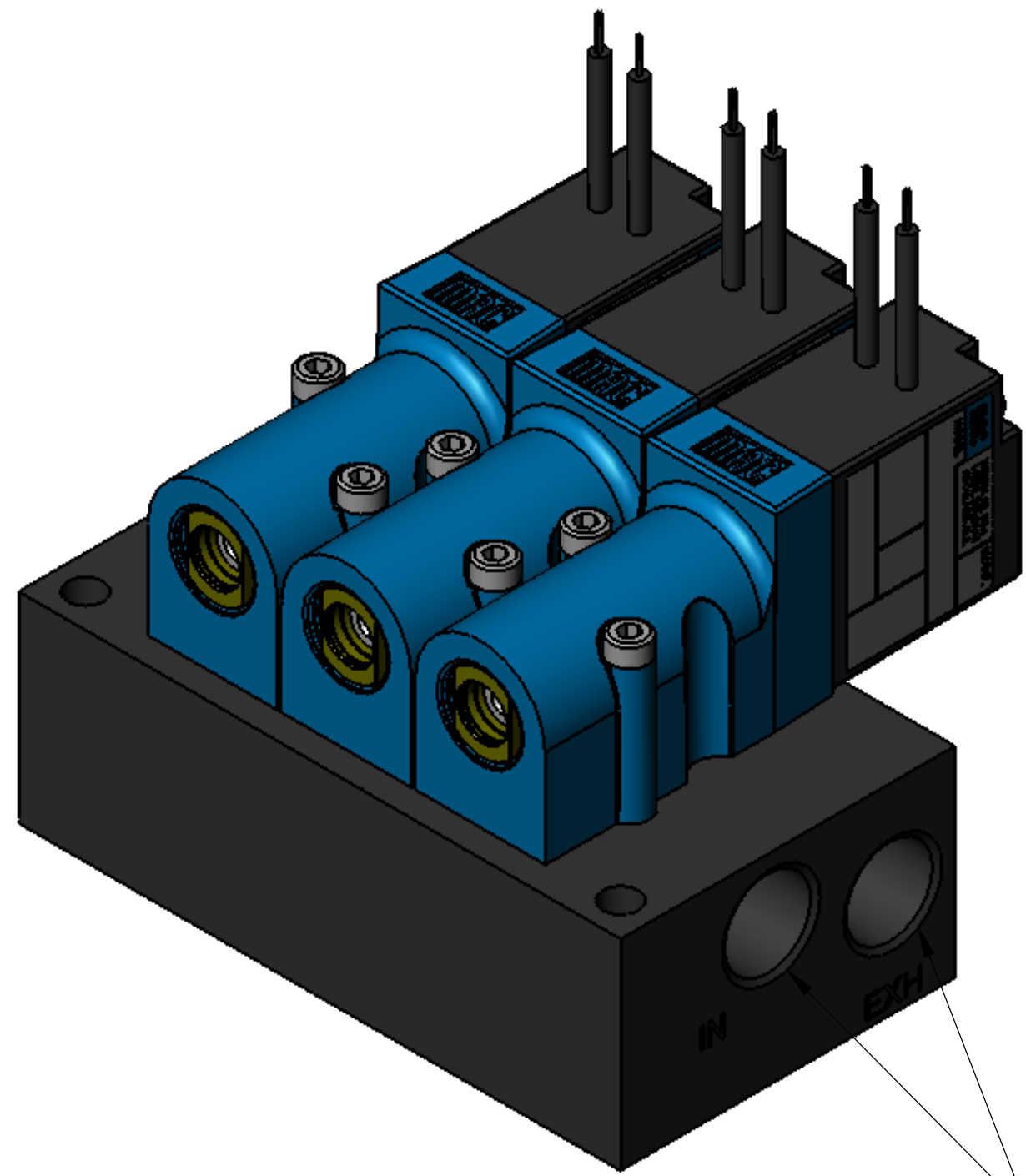
SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION



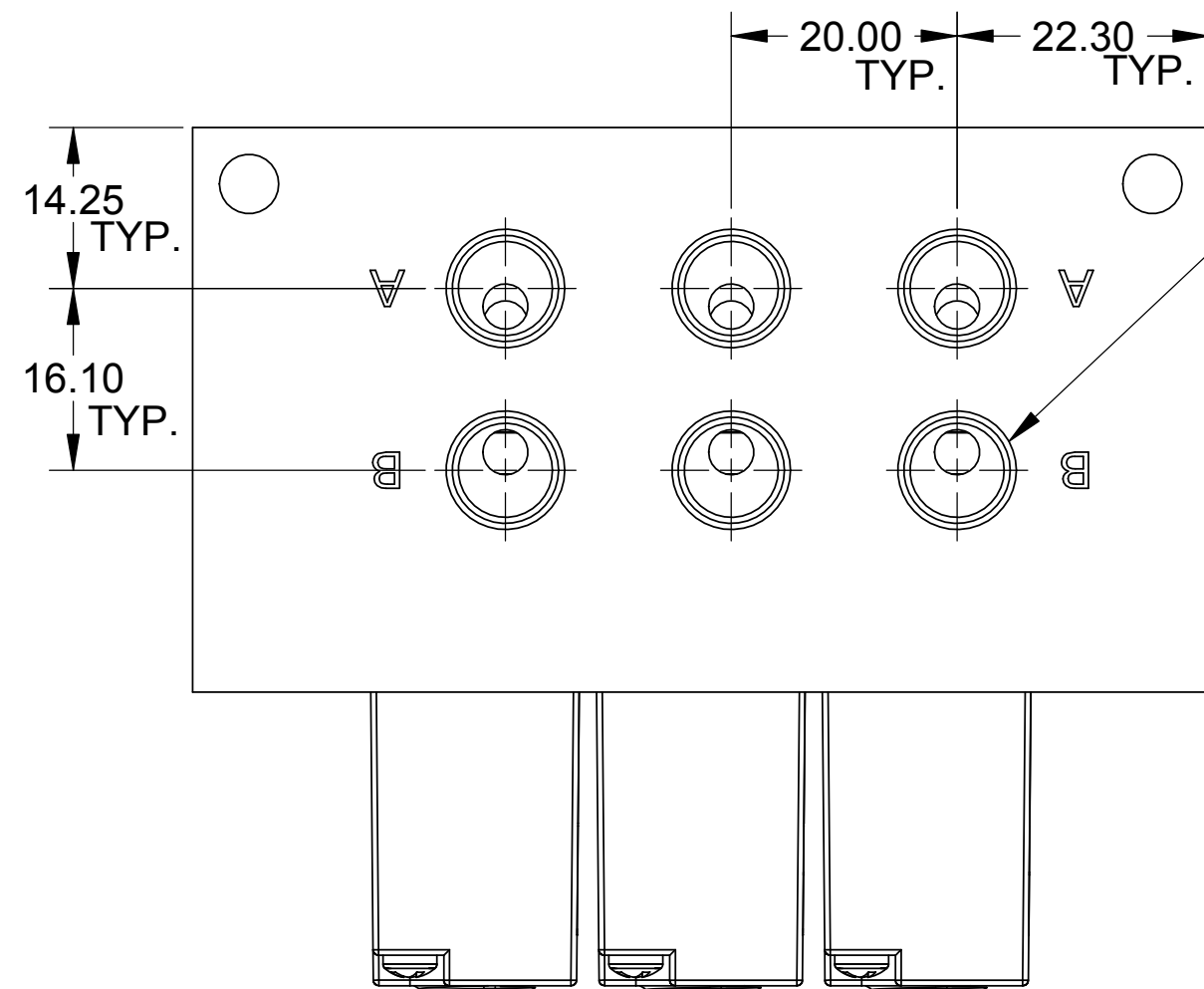
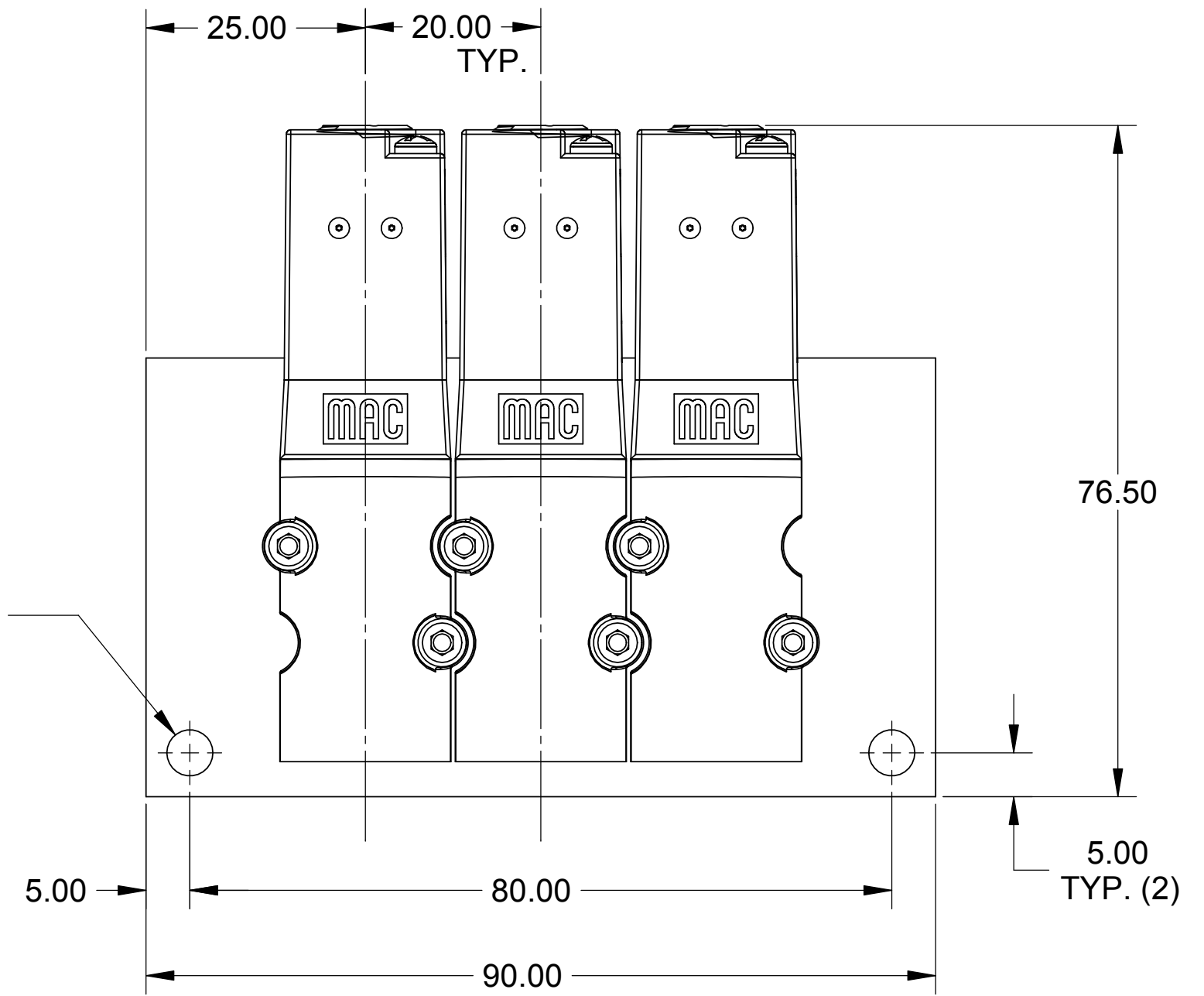
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\*26mm SPACING AVAILABLE FOR RECTANGULAR CONNECTORS

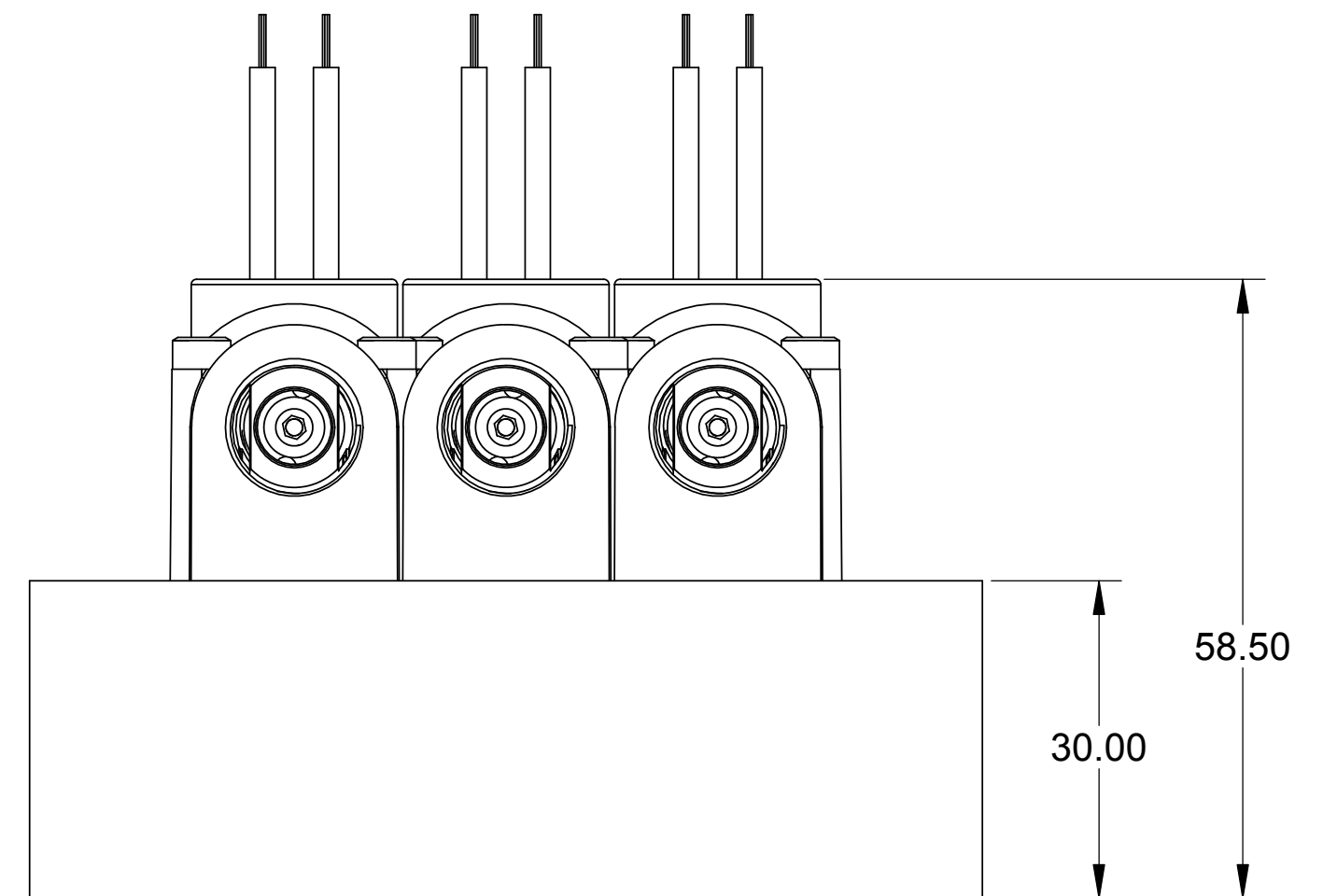
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1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS



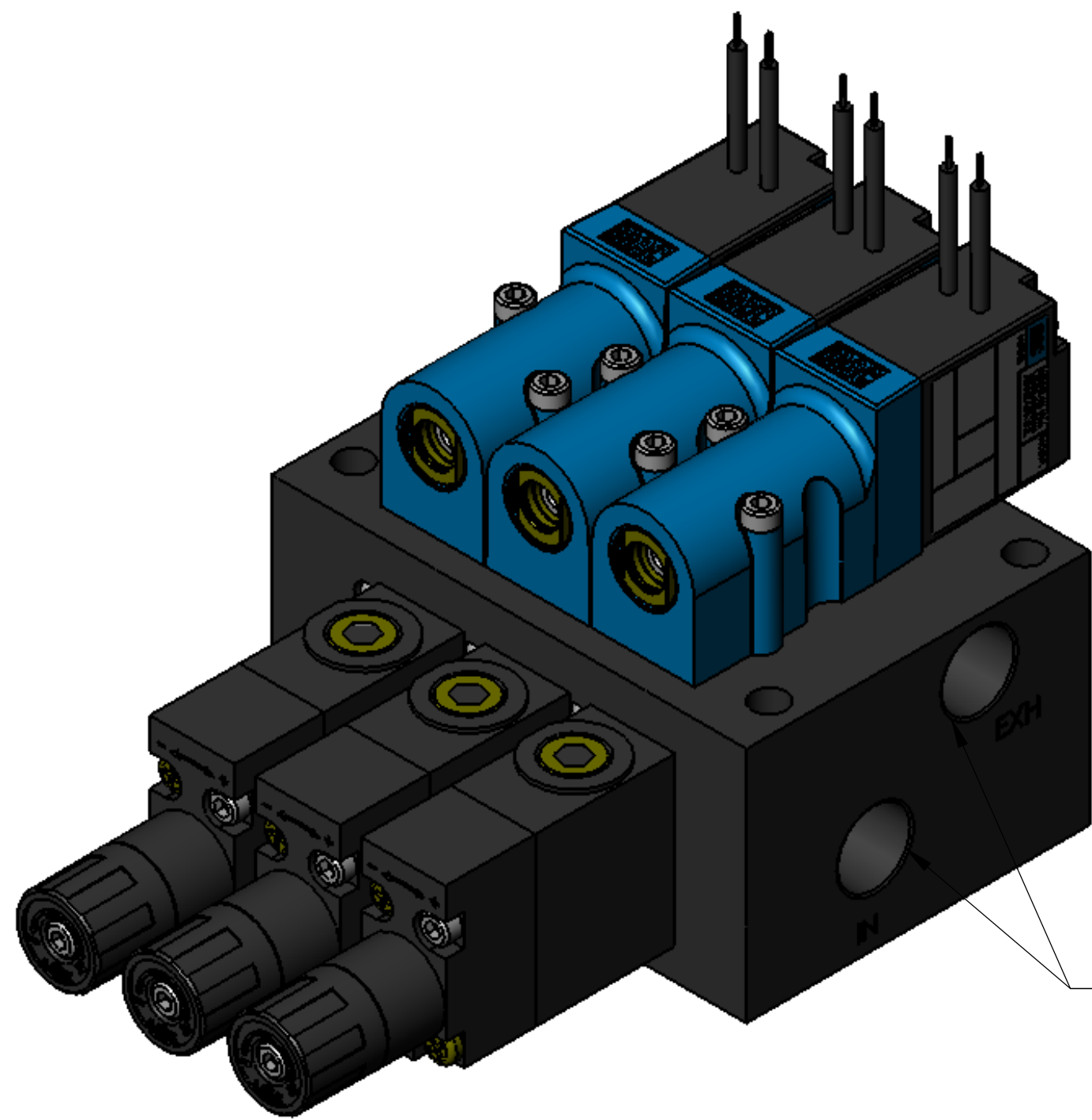
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TYP. (2) PER STATION



# EBM46LA-00BAA-XX

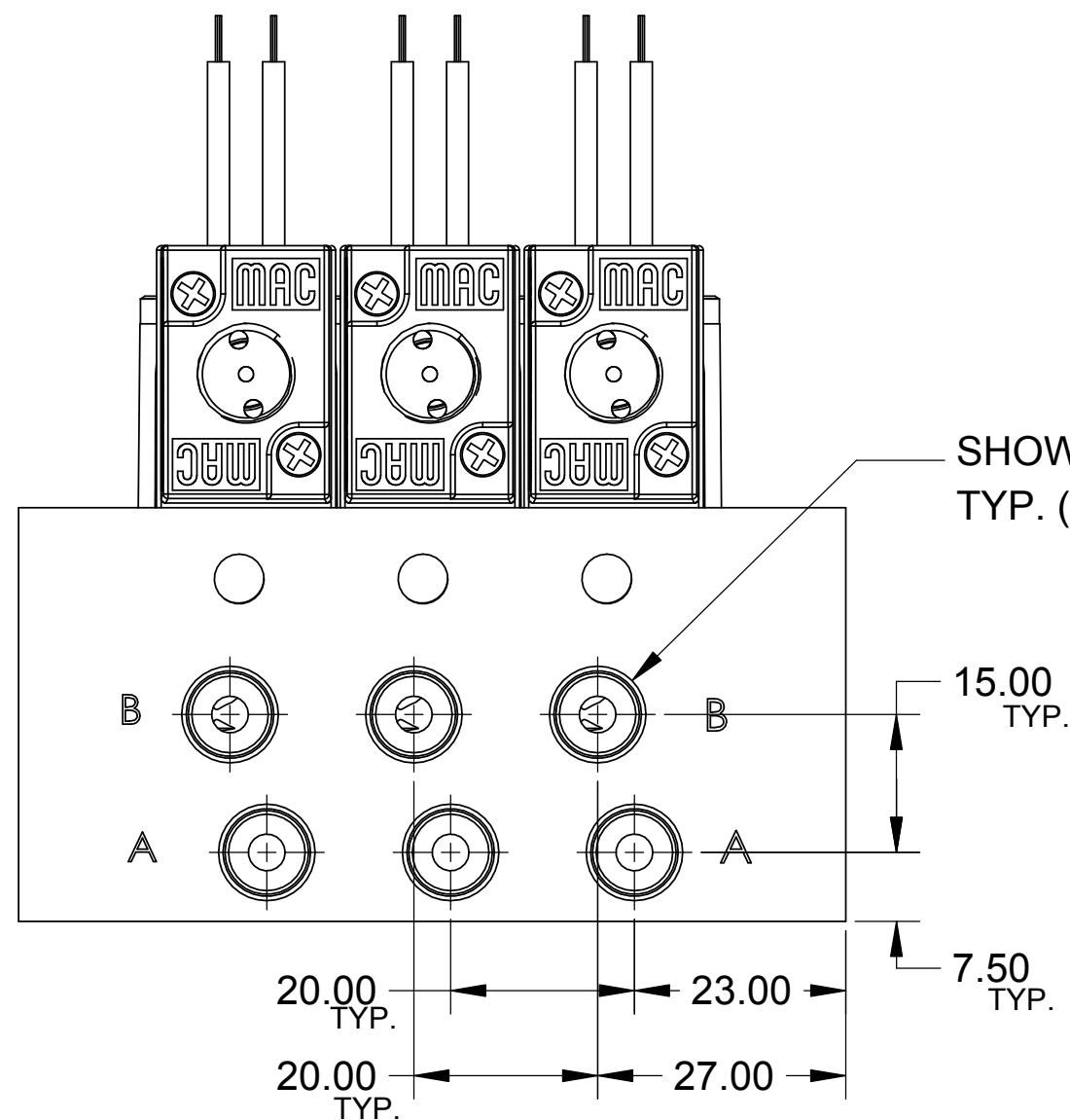
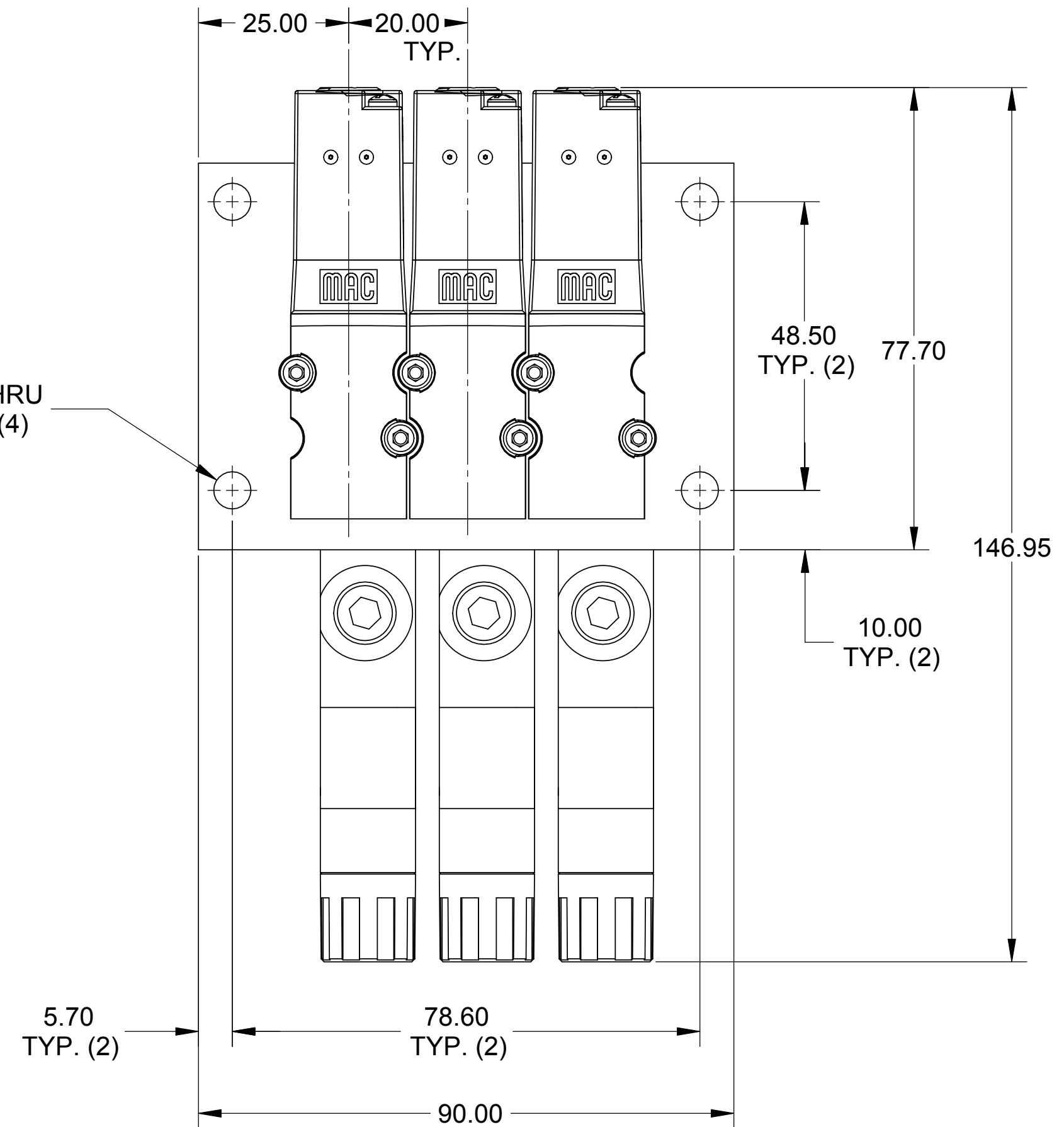
\* 26mm SPACING AVAILABLE FOR RECTANGULAR CONNECTORS

\* SHOWN W/ #1 OPERATOR

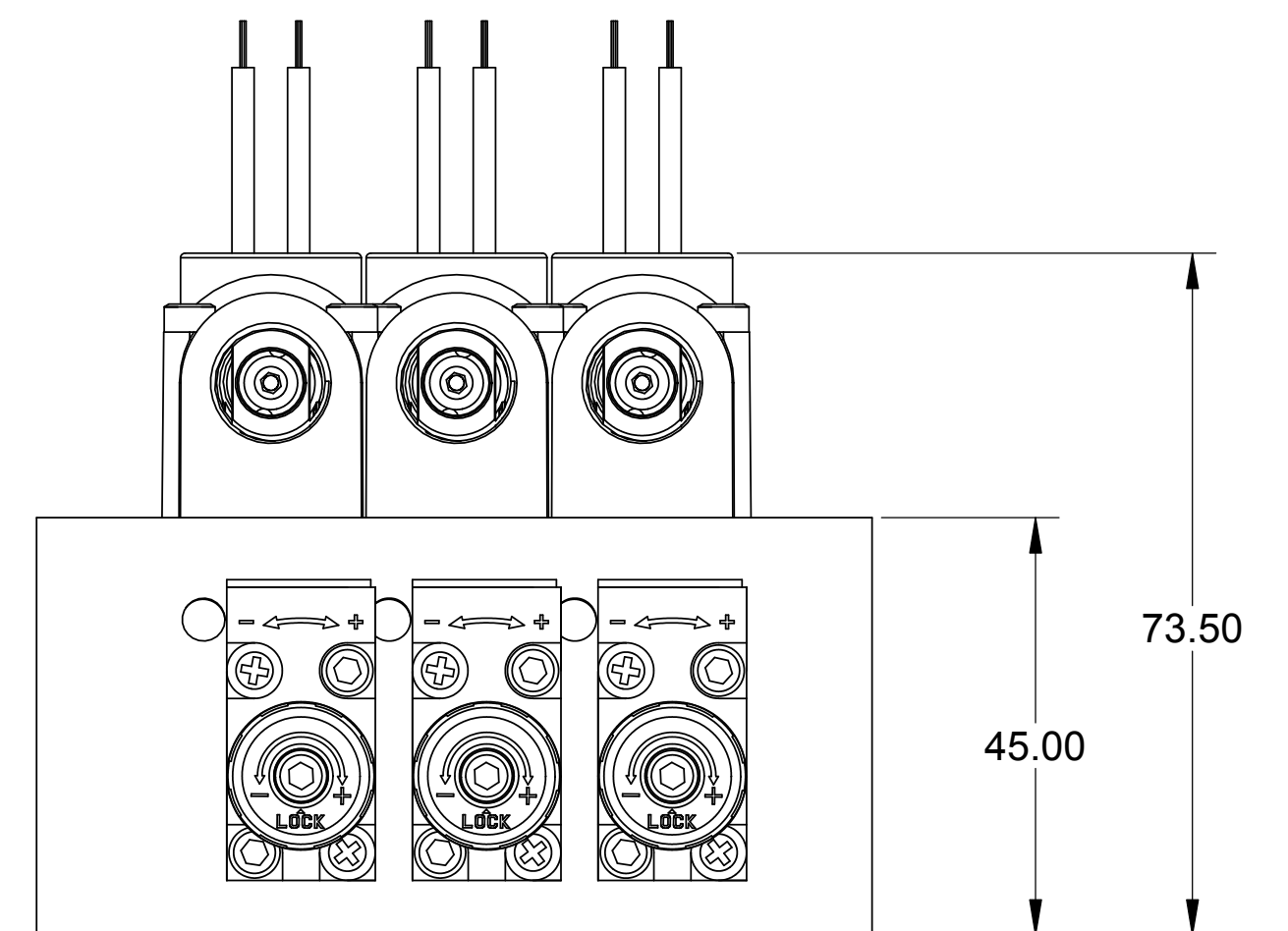


1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS

6.25 THRU  
TYP. (4)



SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION

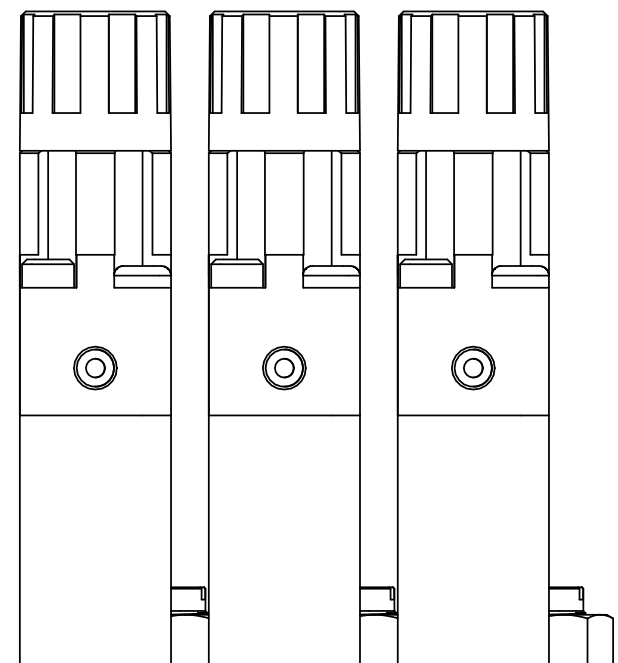
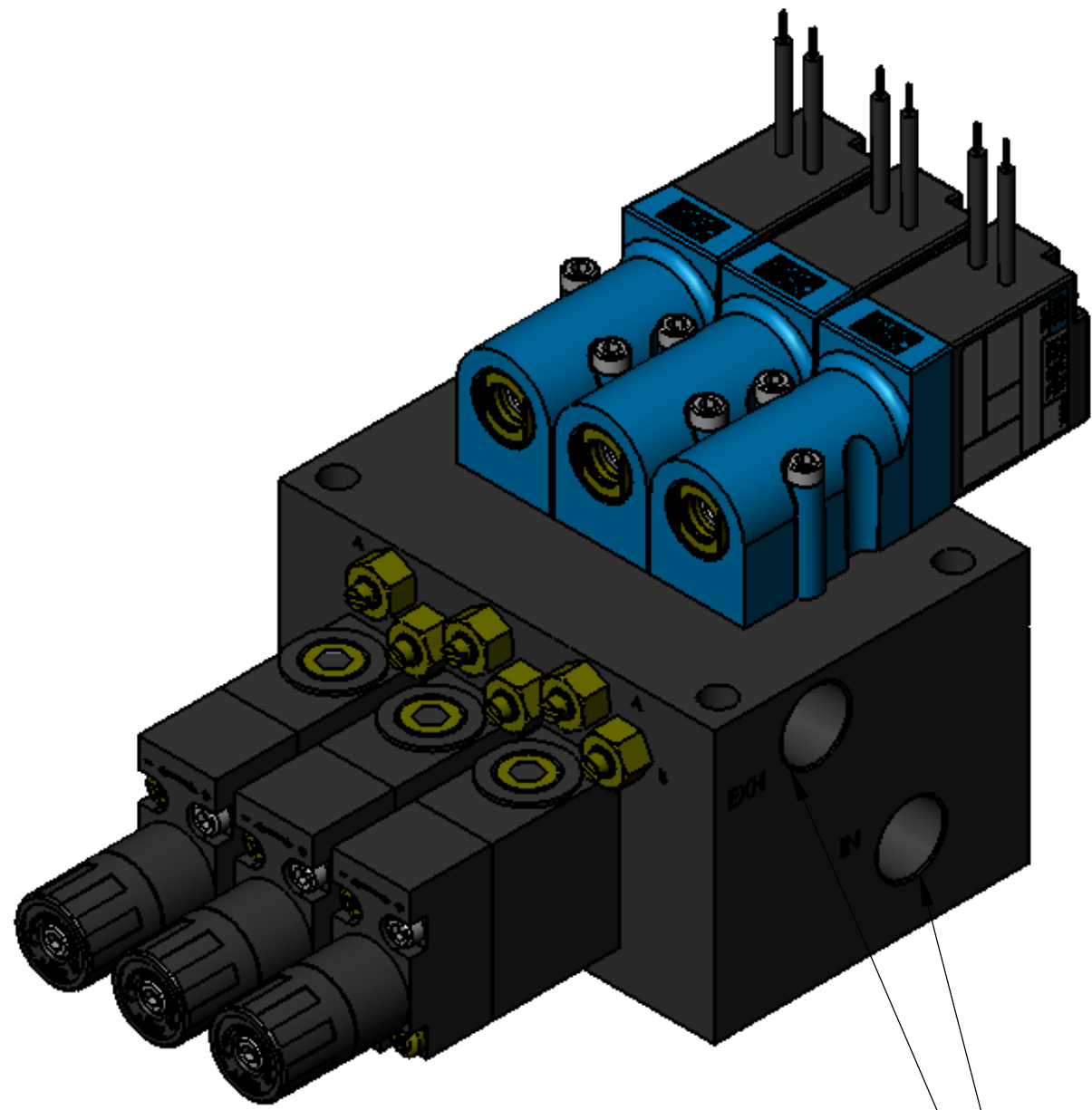


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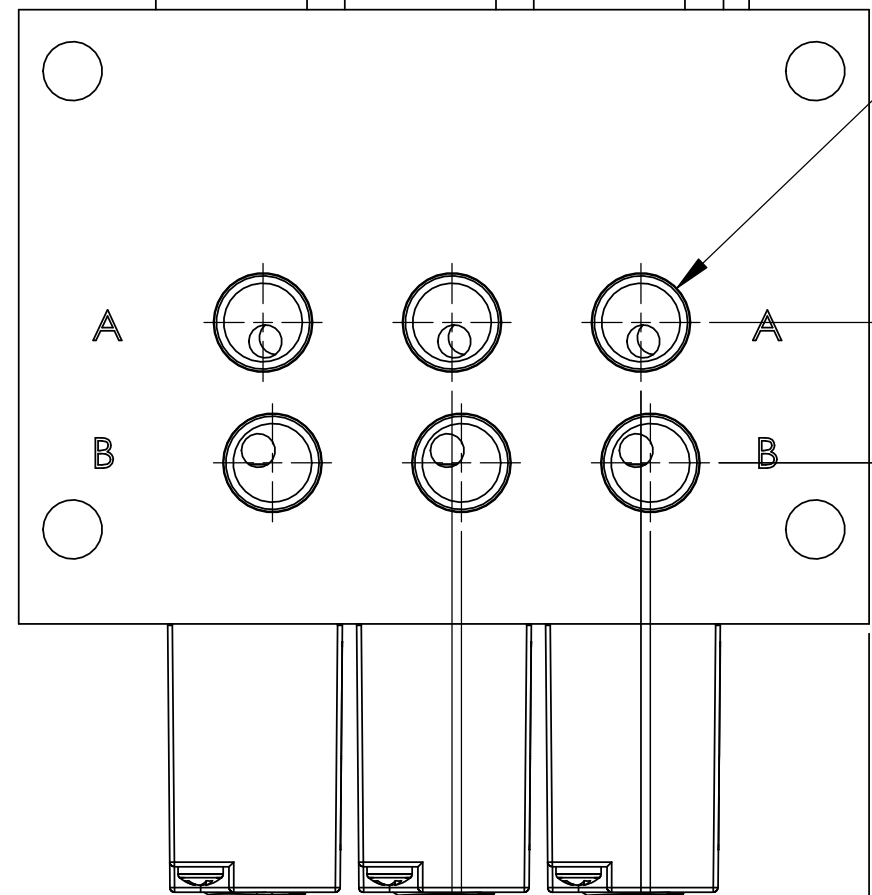
\*SHOWN WITH PR46A-0BAA

\*26mm SPACING AVAILABLE FOR RECTANGULAR CONNECTORS

\*SHOWN W/ #1 OPERATOR



1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS



SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION

14.85  
TYP.

17.05  
TYP.

20.00 TYP. 23.15  
20.00 TYP. 24.15

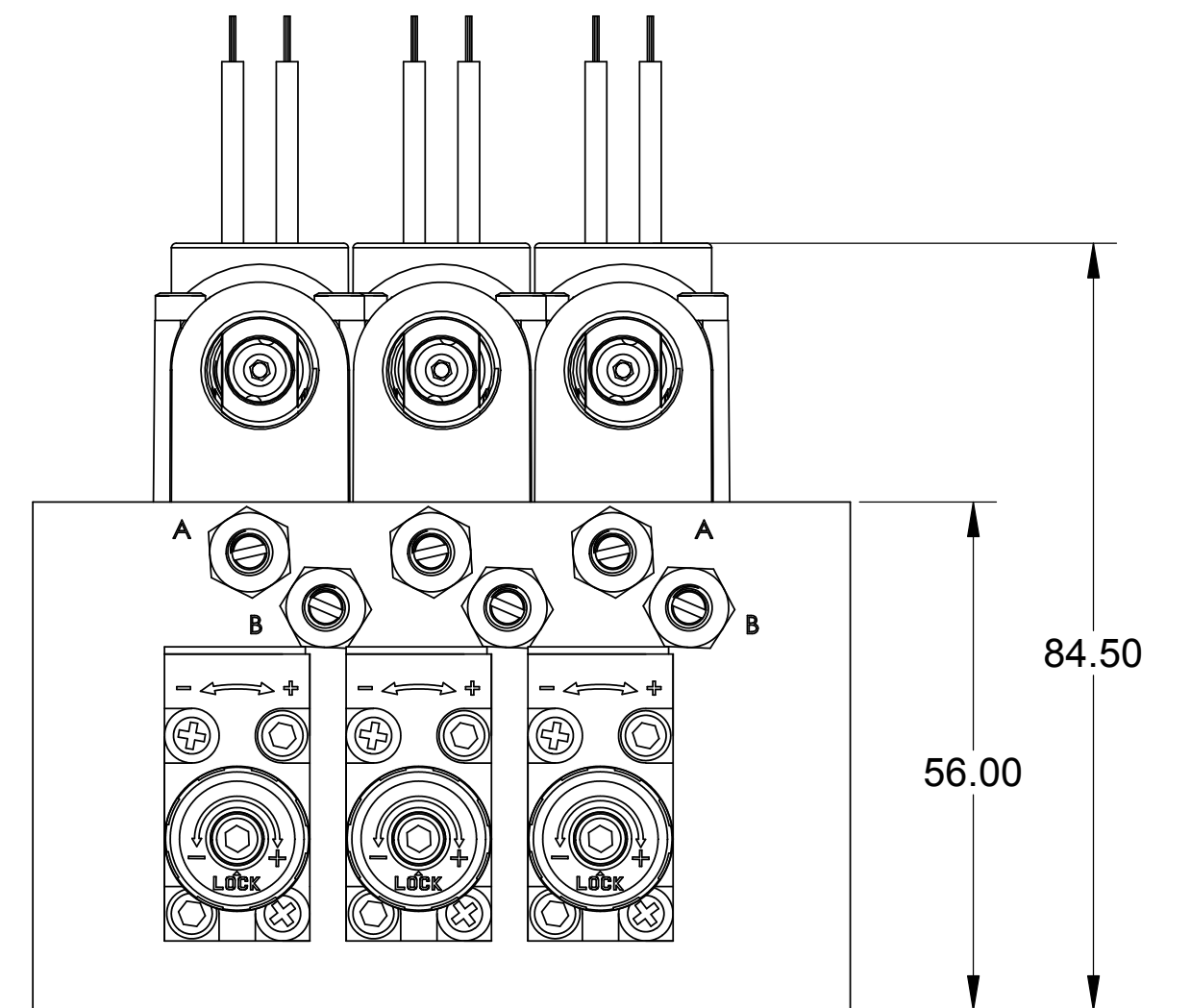
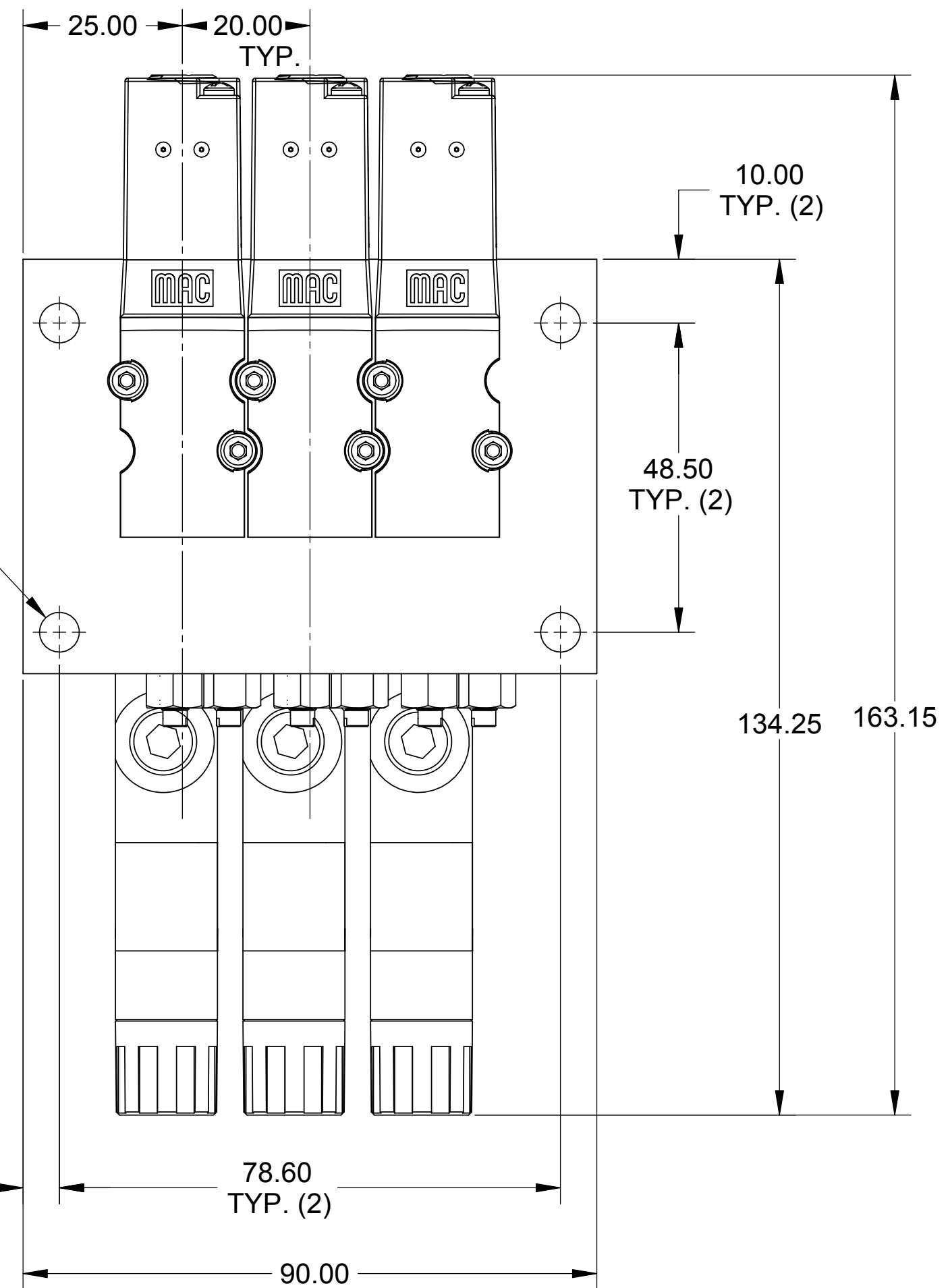
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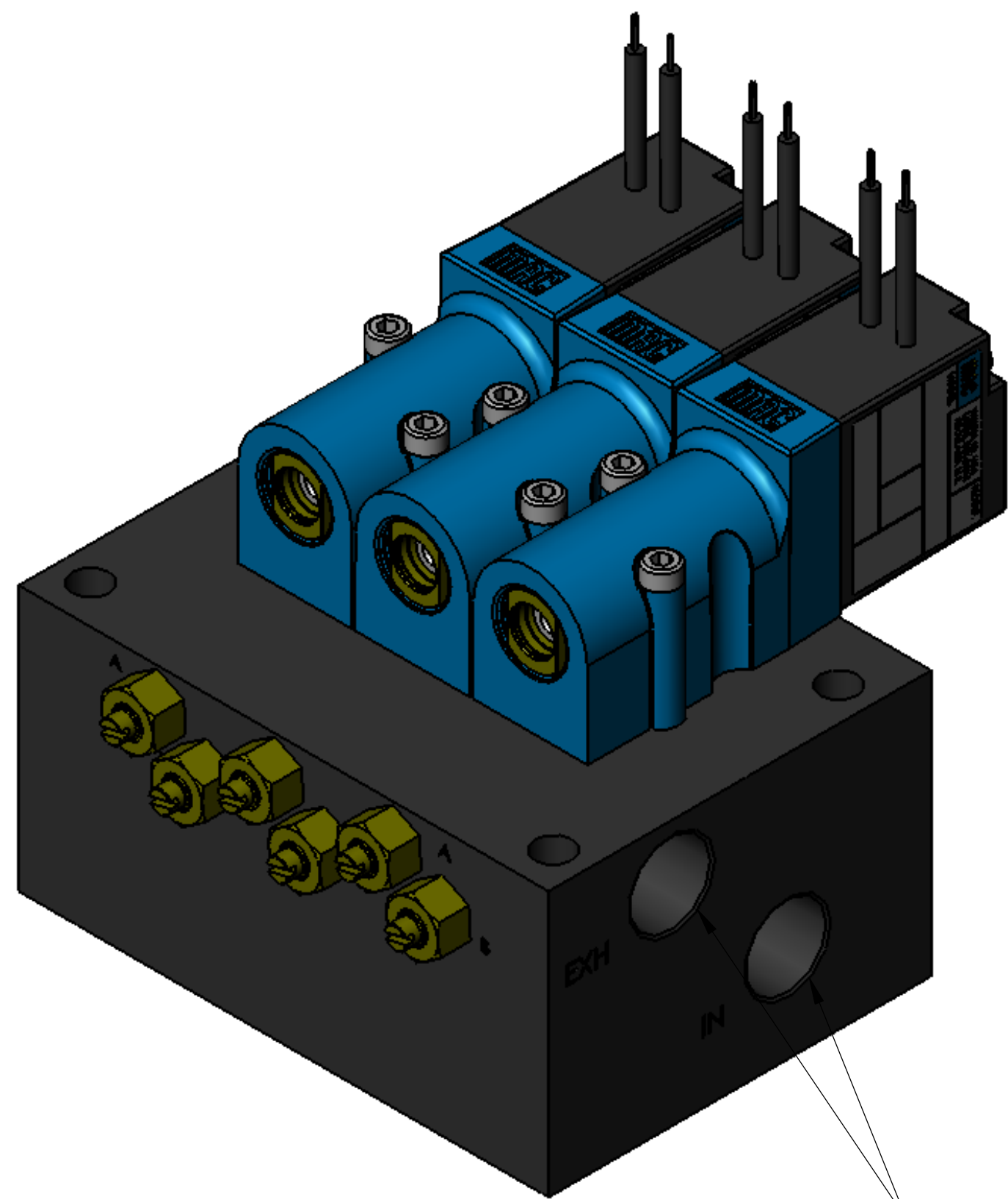
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\*26mm SPACING AVAILABLE FOR RECTANGULAR CONNECTORS

\*SHOWN W/ #1 OPERATOR

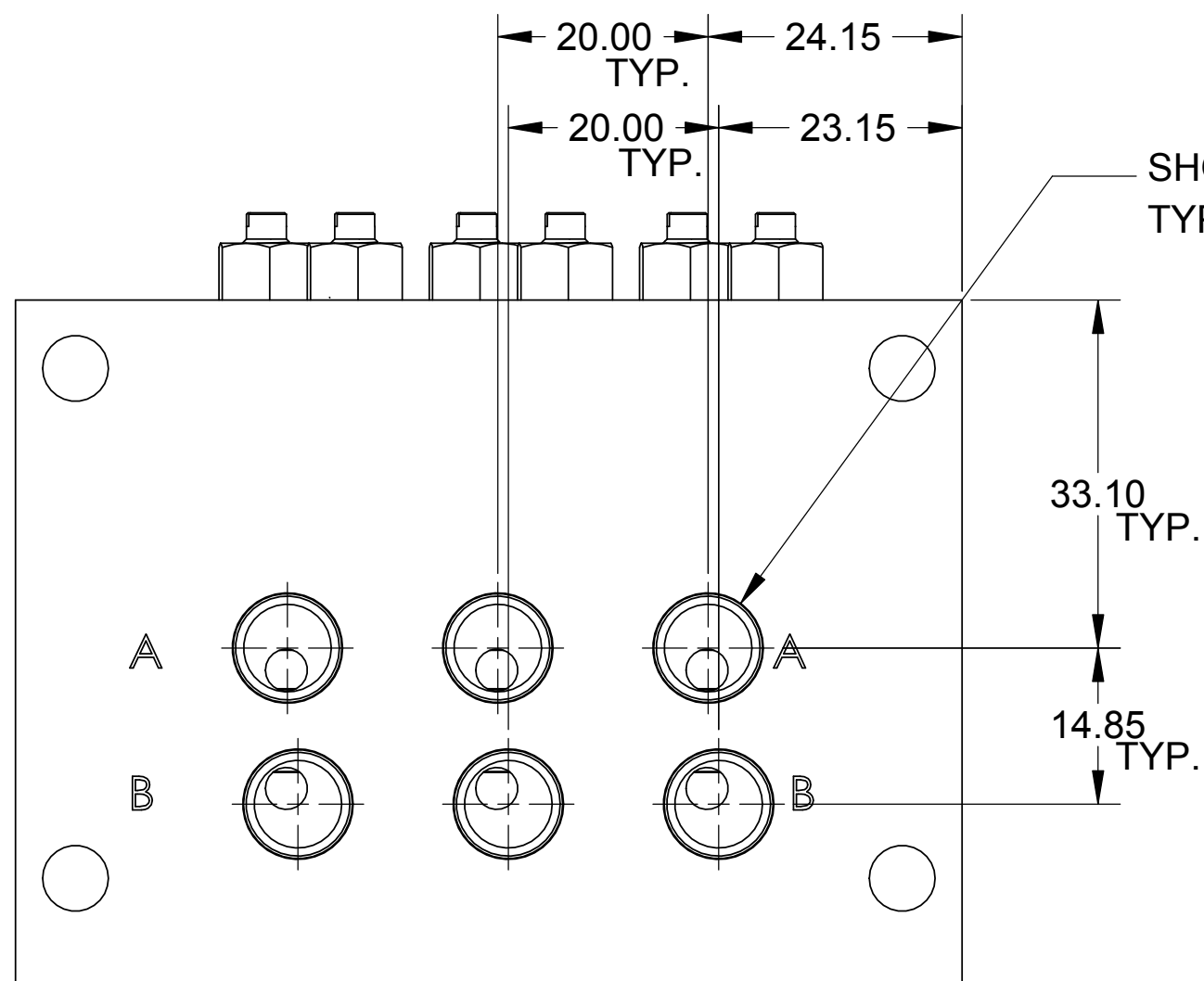
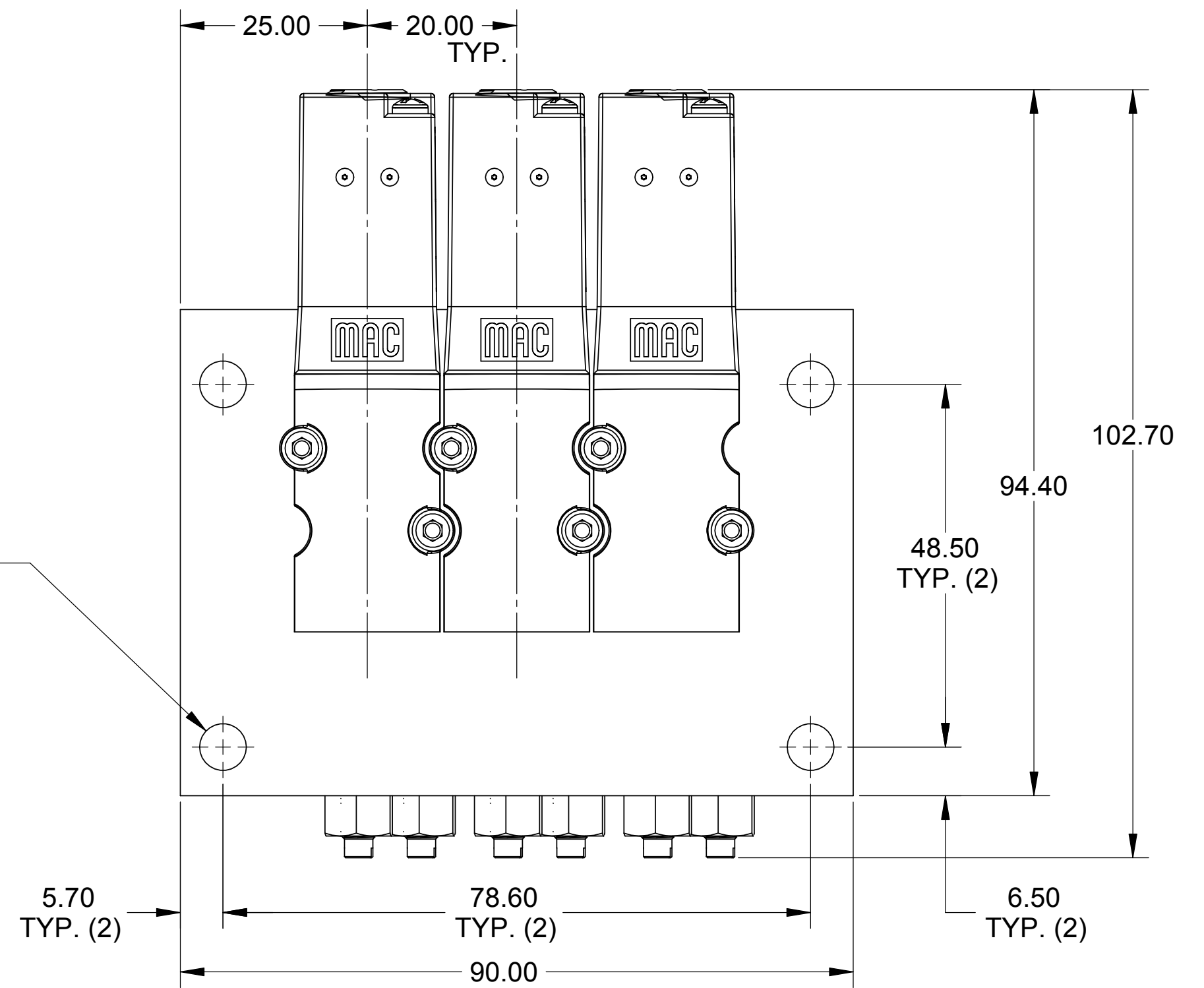
6.25 THRU  
TYP. (4)



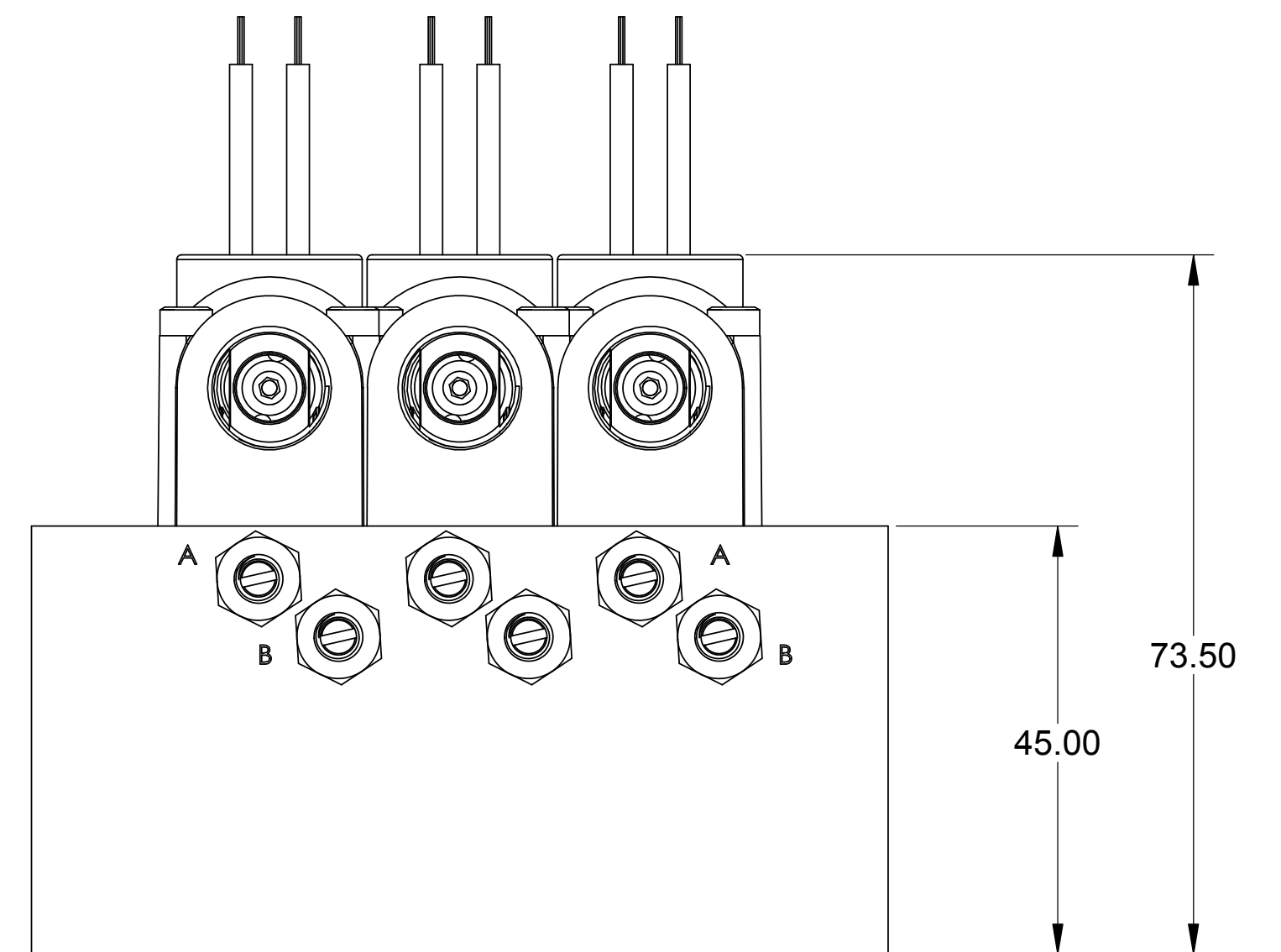


6.25 THRU  
TYP. (4)

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS



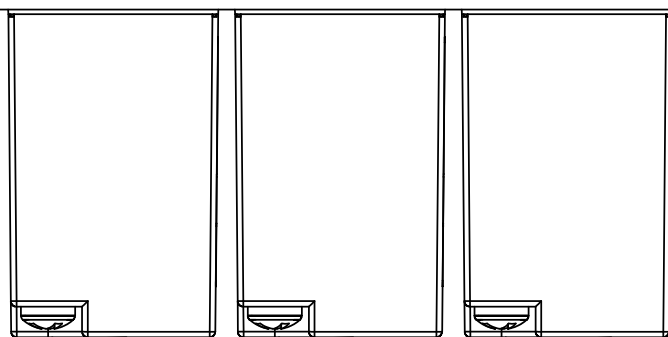
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TYP. (2) PER STATION

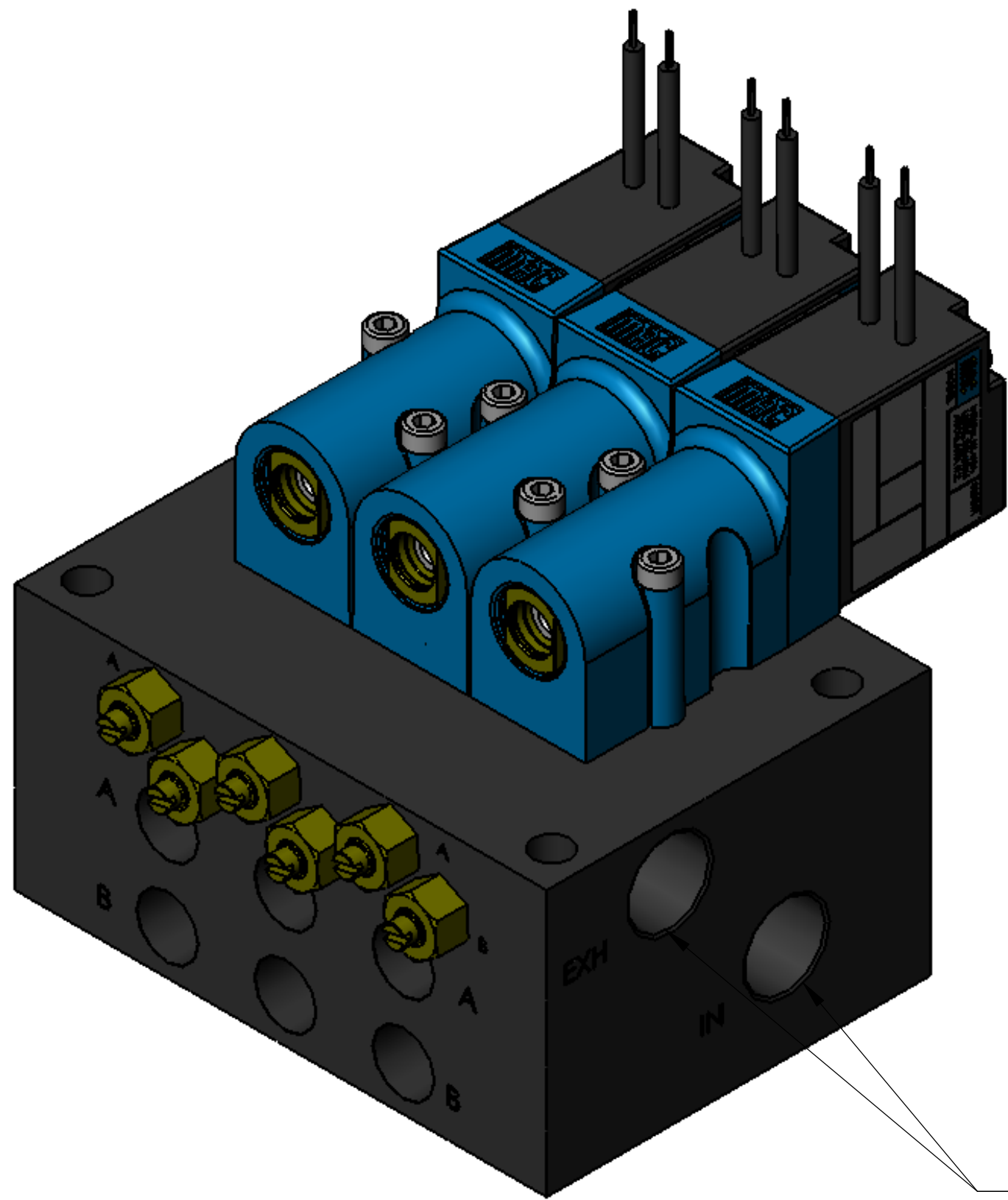


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\*26mm SPACING AVAILABLE FOR RECTANGULAR CONNECTORS

\*SHOWN W/ #1 OPERATOR





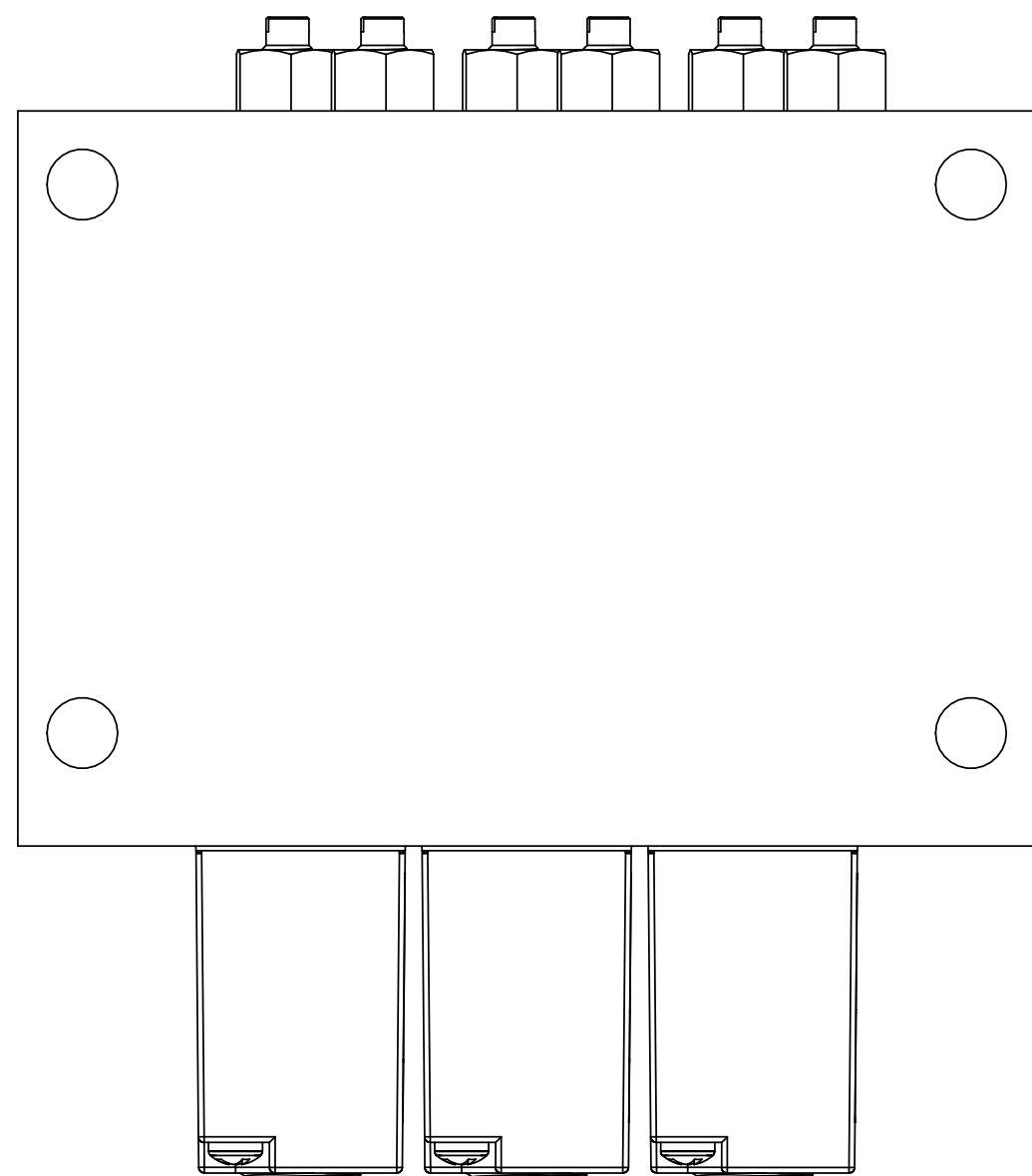
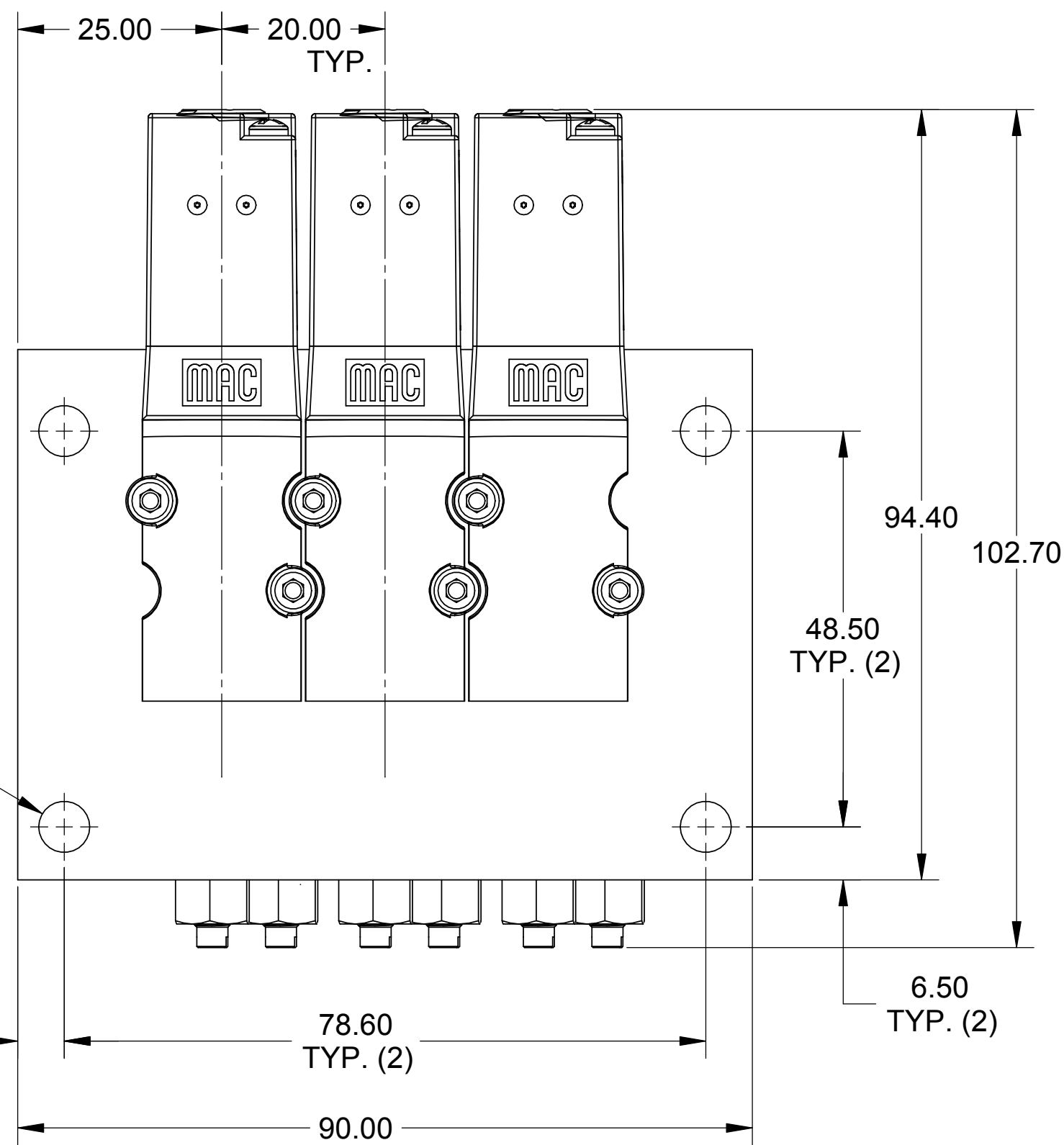
1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS

6.25 THRU  
TYP. (4)

5.70  
TYP. (2)

25.00  
TYP.

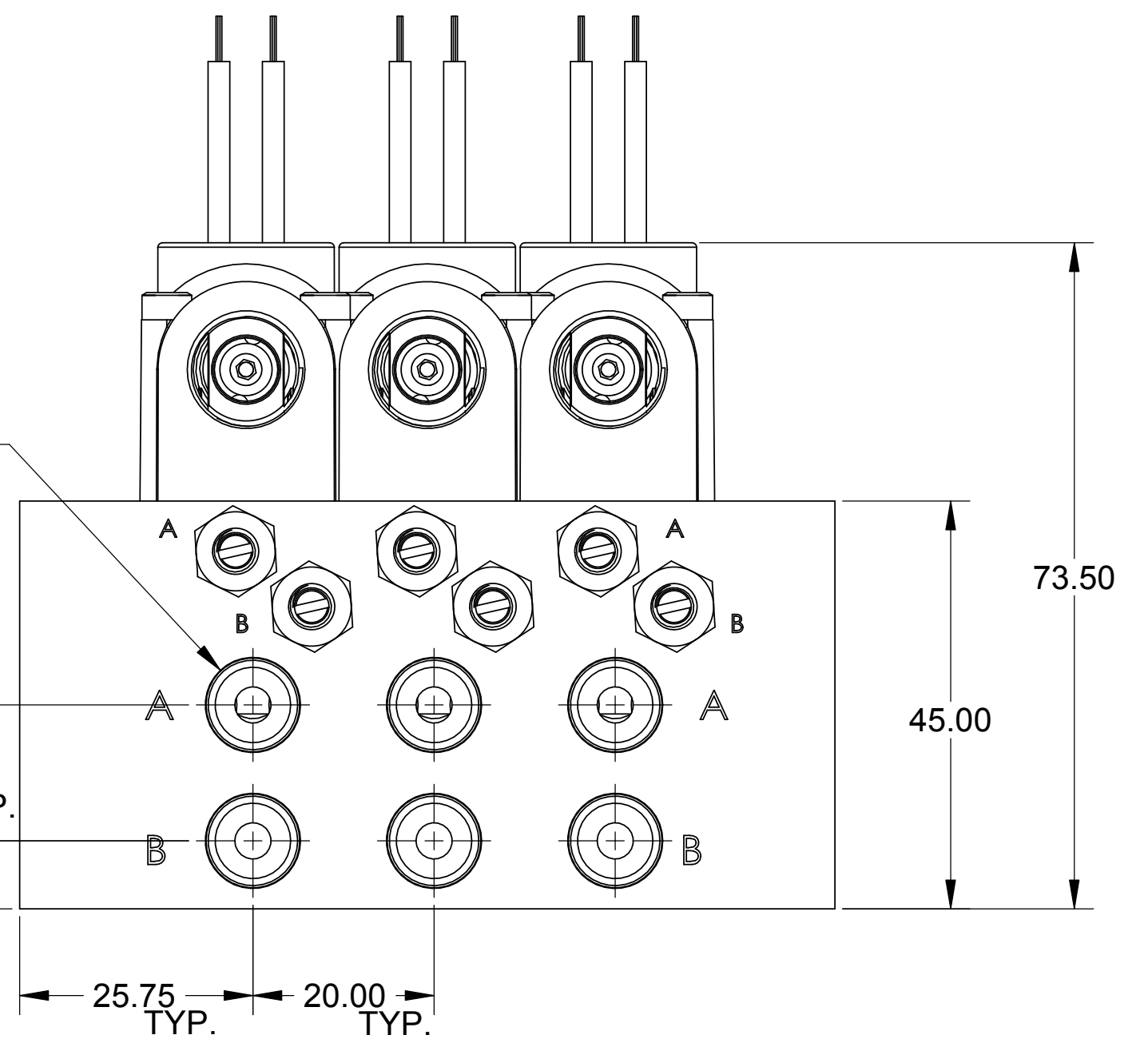
20.00  
TYP.



SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION

7.50  
TYP.

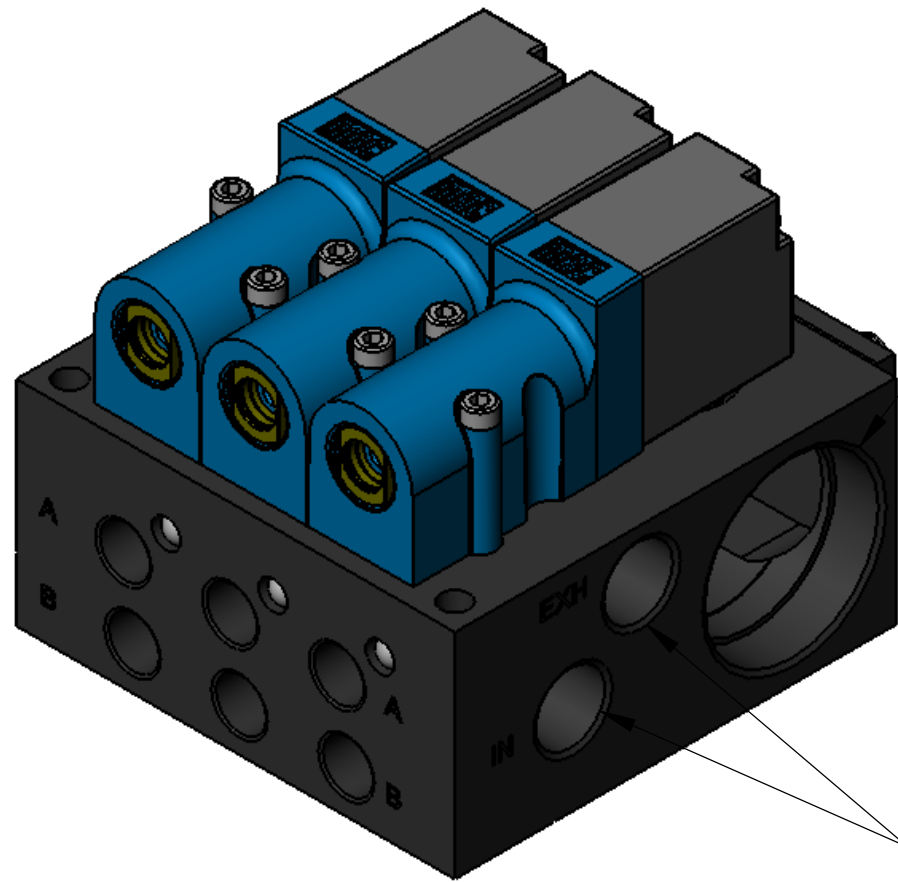
15.00  
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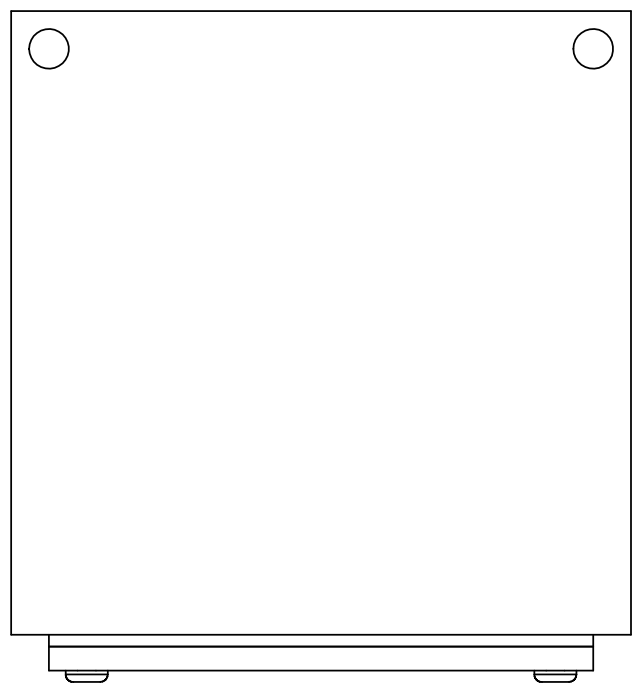
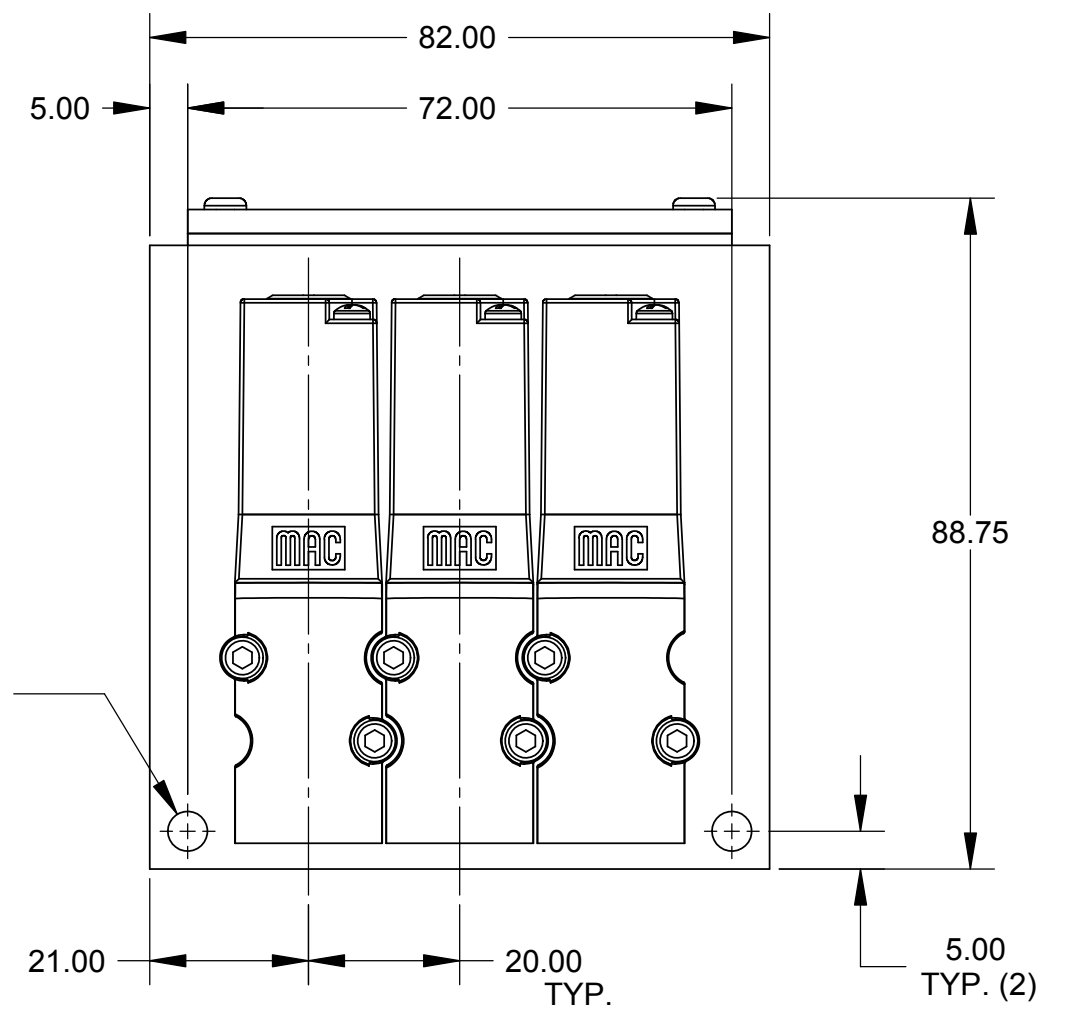
\*26mm SPACING AVAILABLE FOR RECTANGULAR CONNECTORS

\*SHOWN W/ #1 OPERATOR

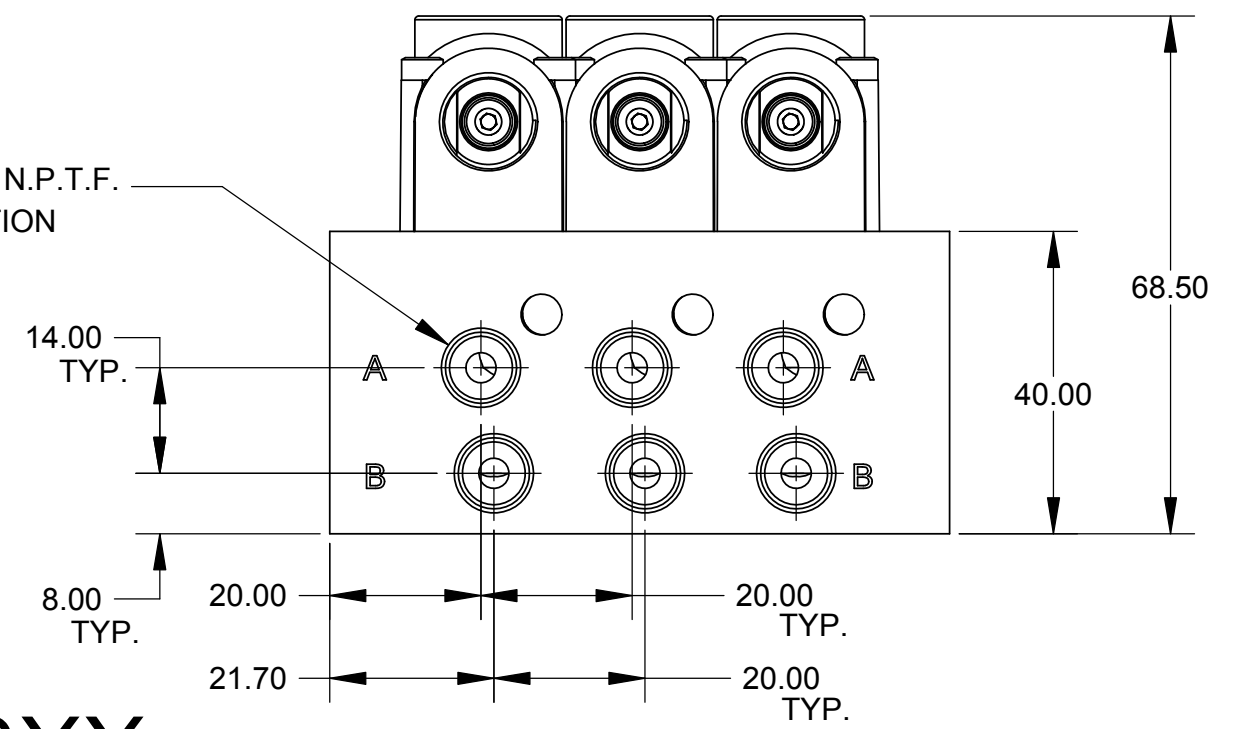


1" - 11 1/2 N.P.S.M. TAP  
8.5 FULL THREAD DEPTH  
TYP. BOTH ENDS

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS

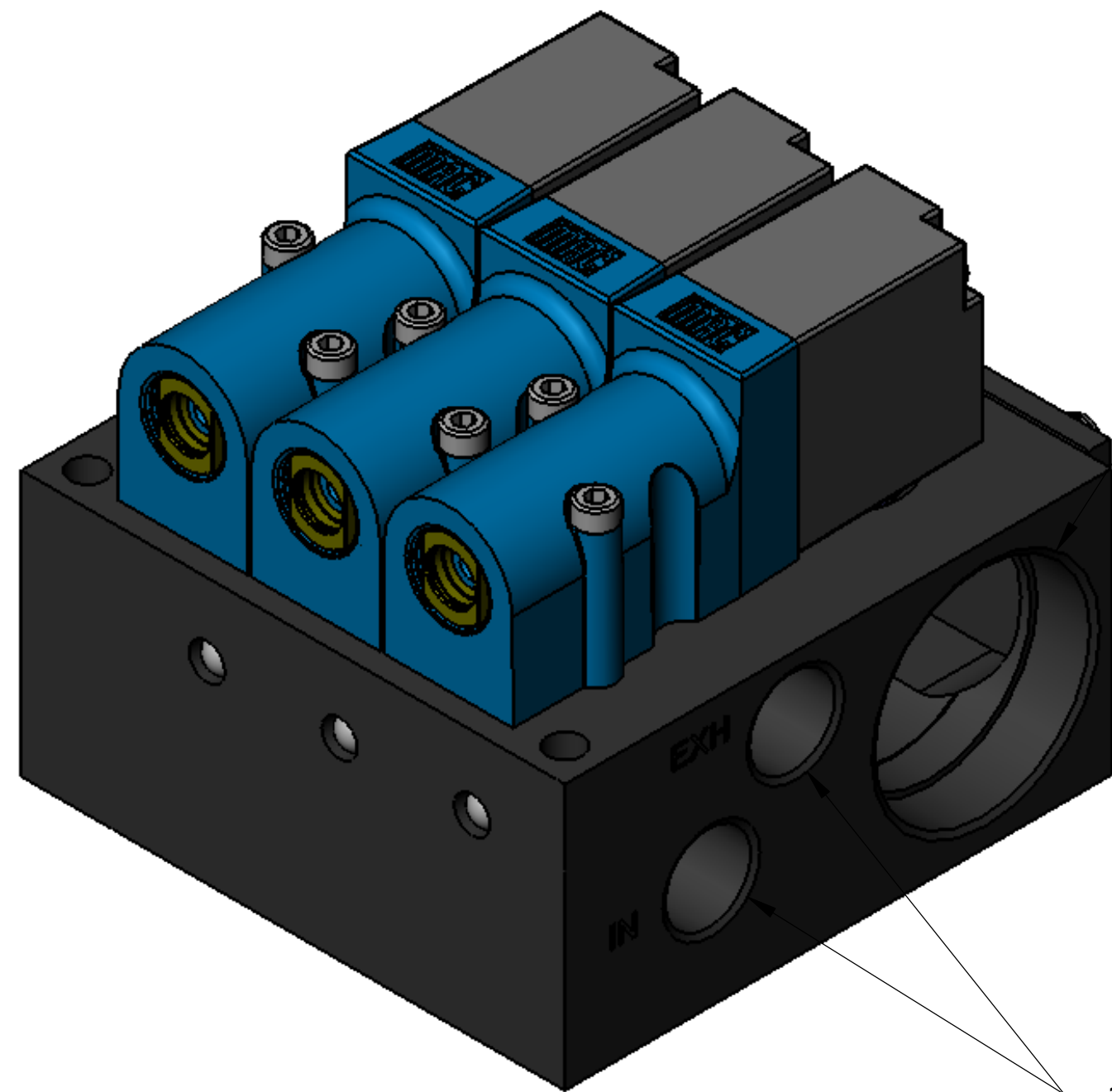


SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION



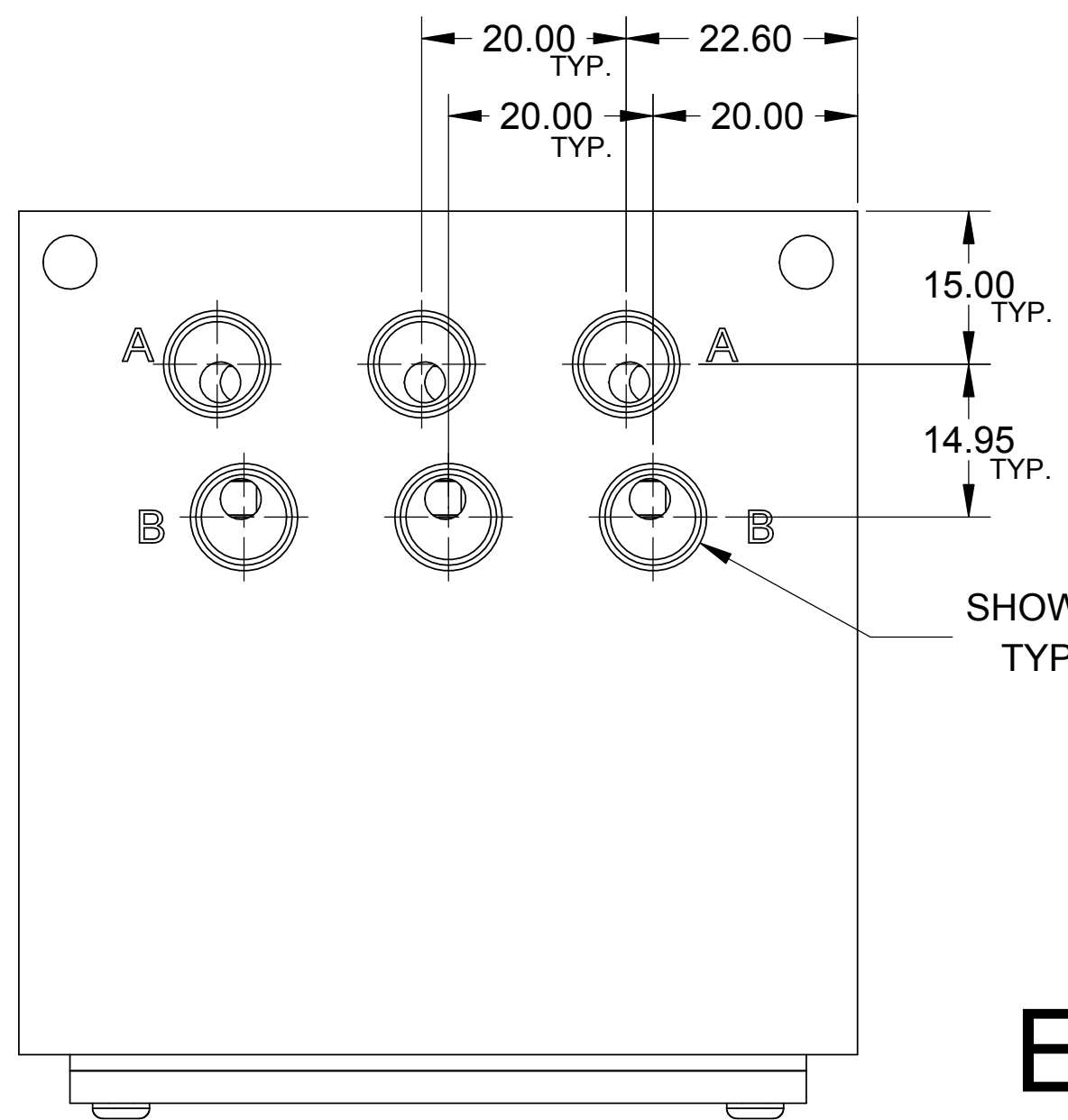
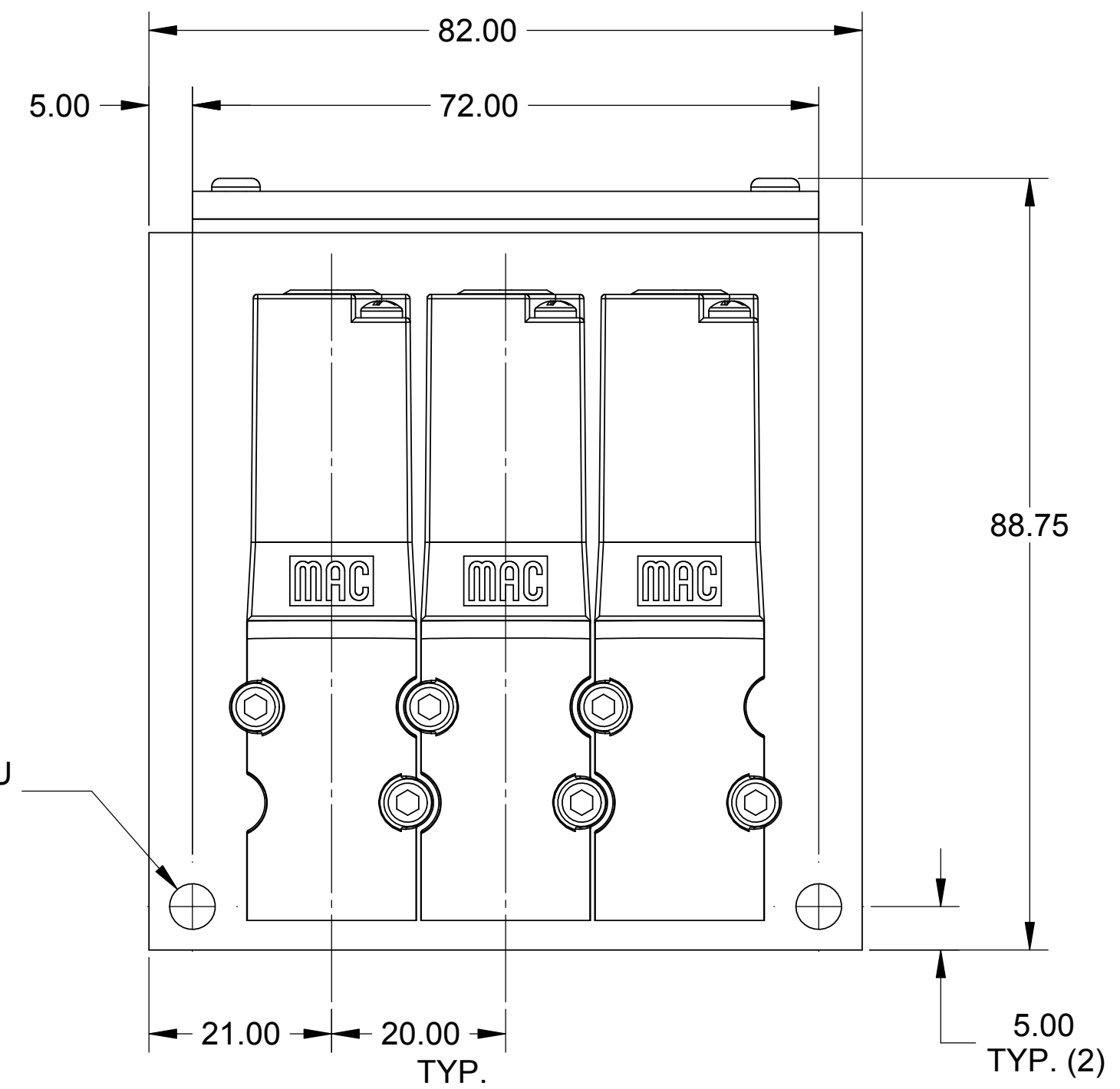
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\*SHOWN W/ #1 OPERATOR

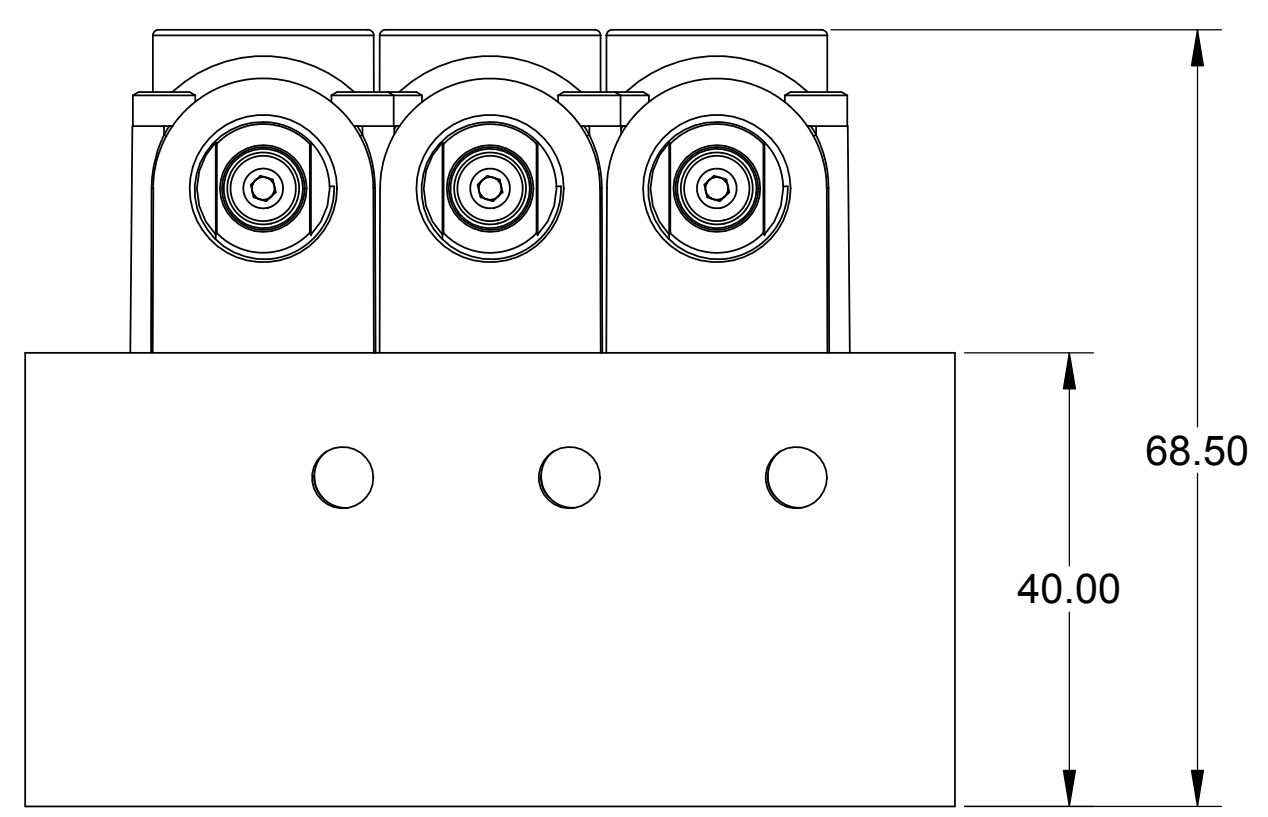


1" - 11 1/2 N.P.S.M. TAP  
8.5 FULL THREAD DEPTH  
TYP. BOTH ENDS

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS



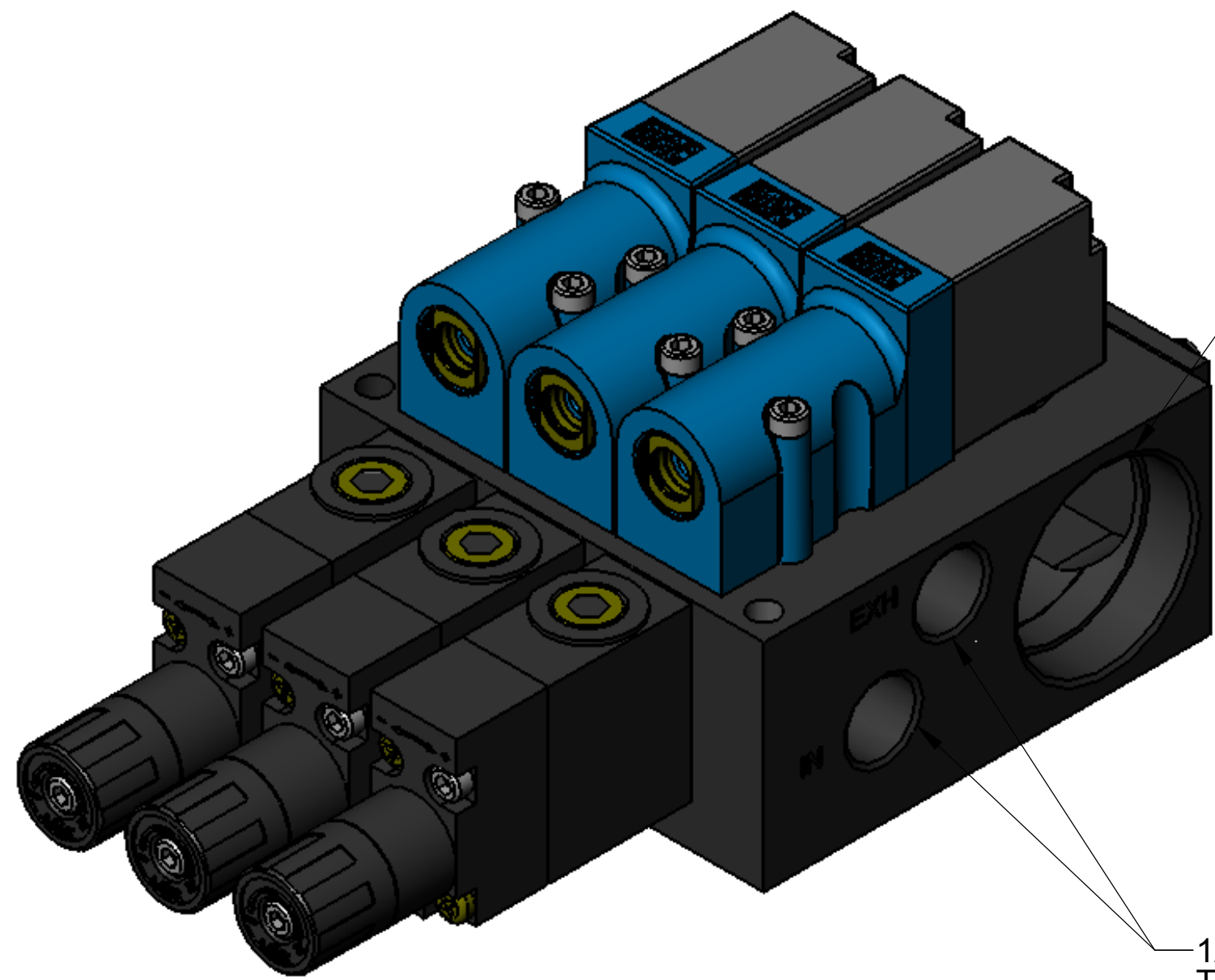
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TYP. (2) PER STATION



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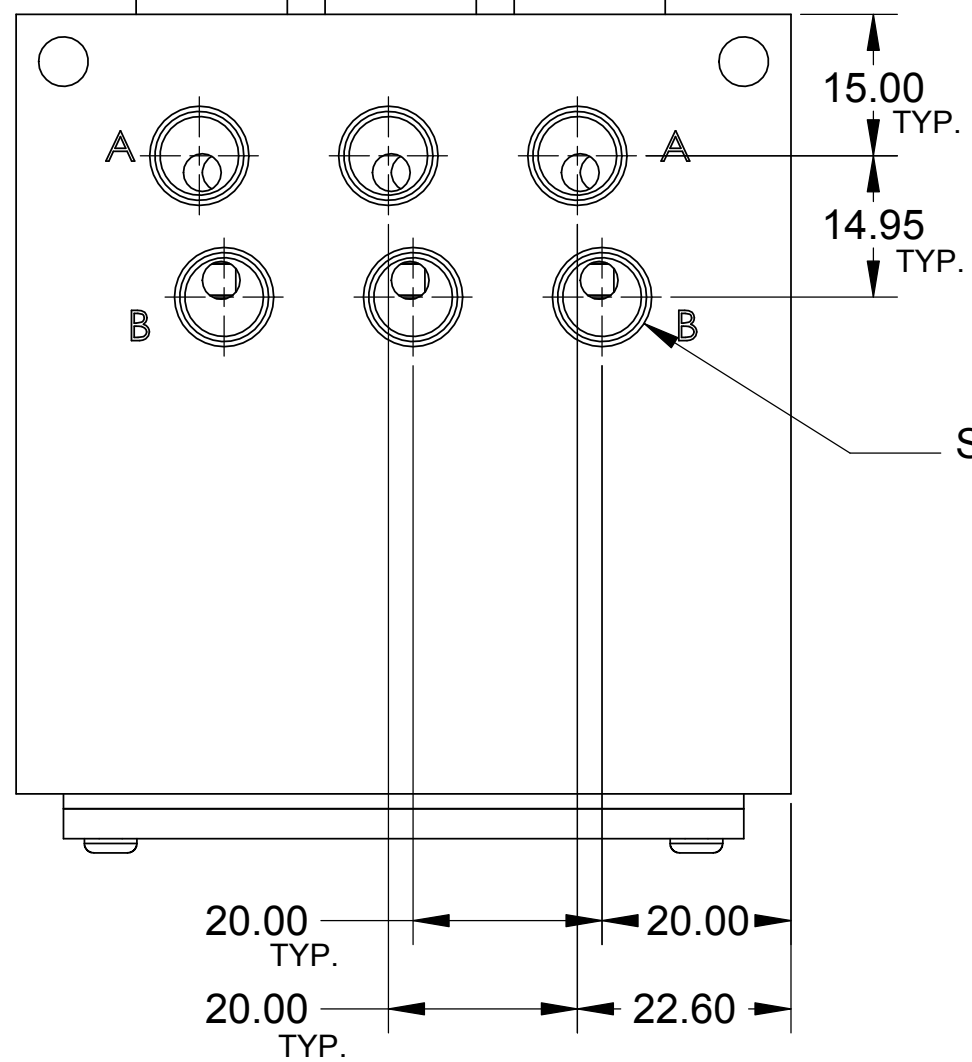
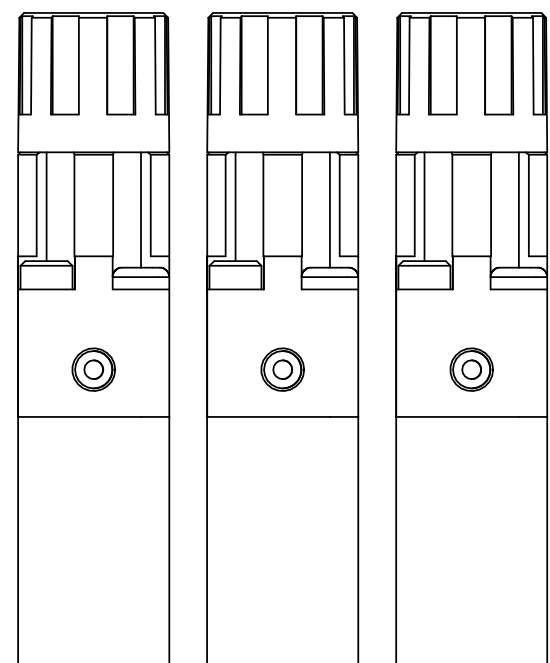
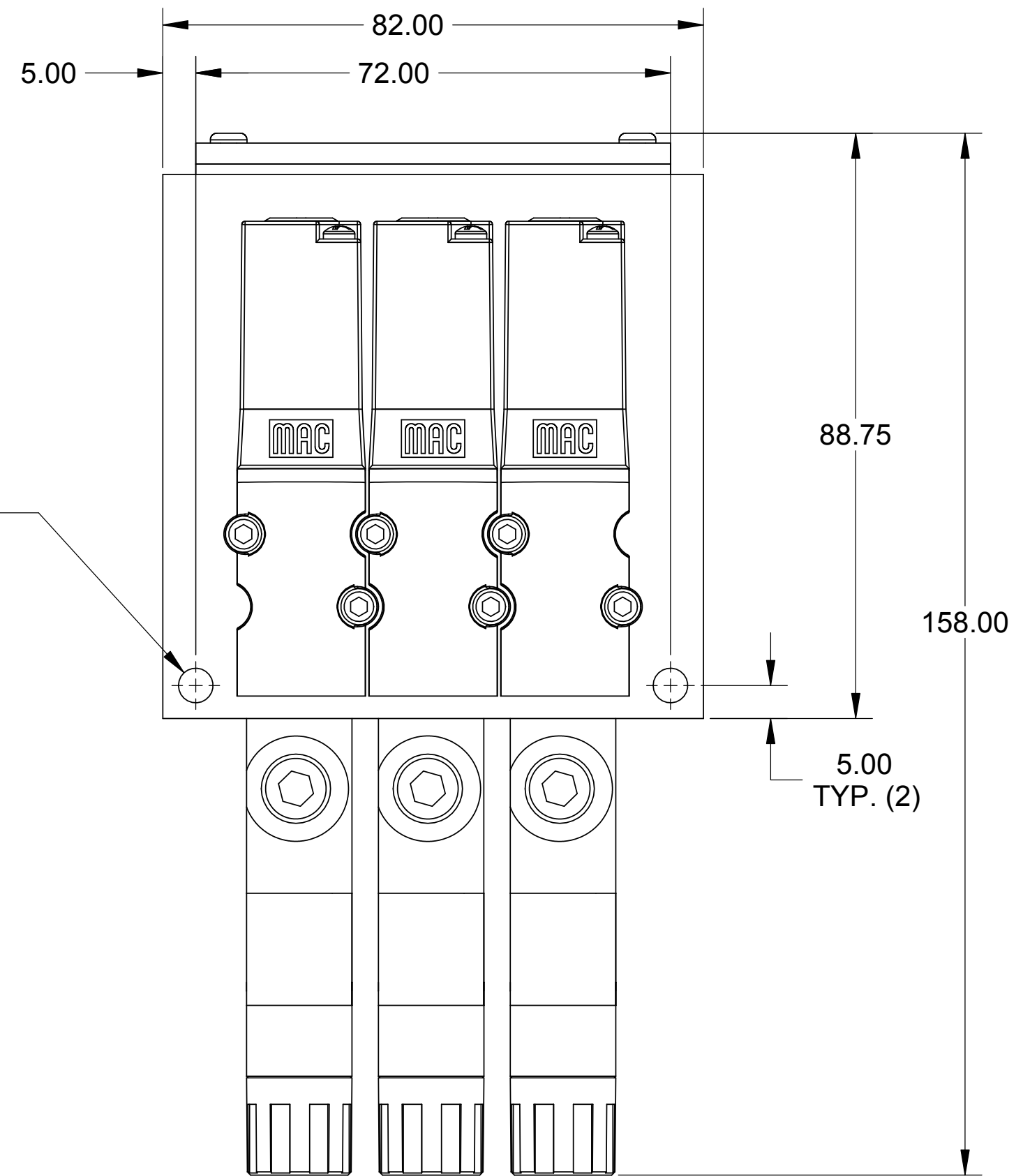
\*SHOWN W/ #1 OPERATOR



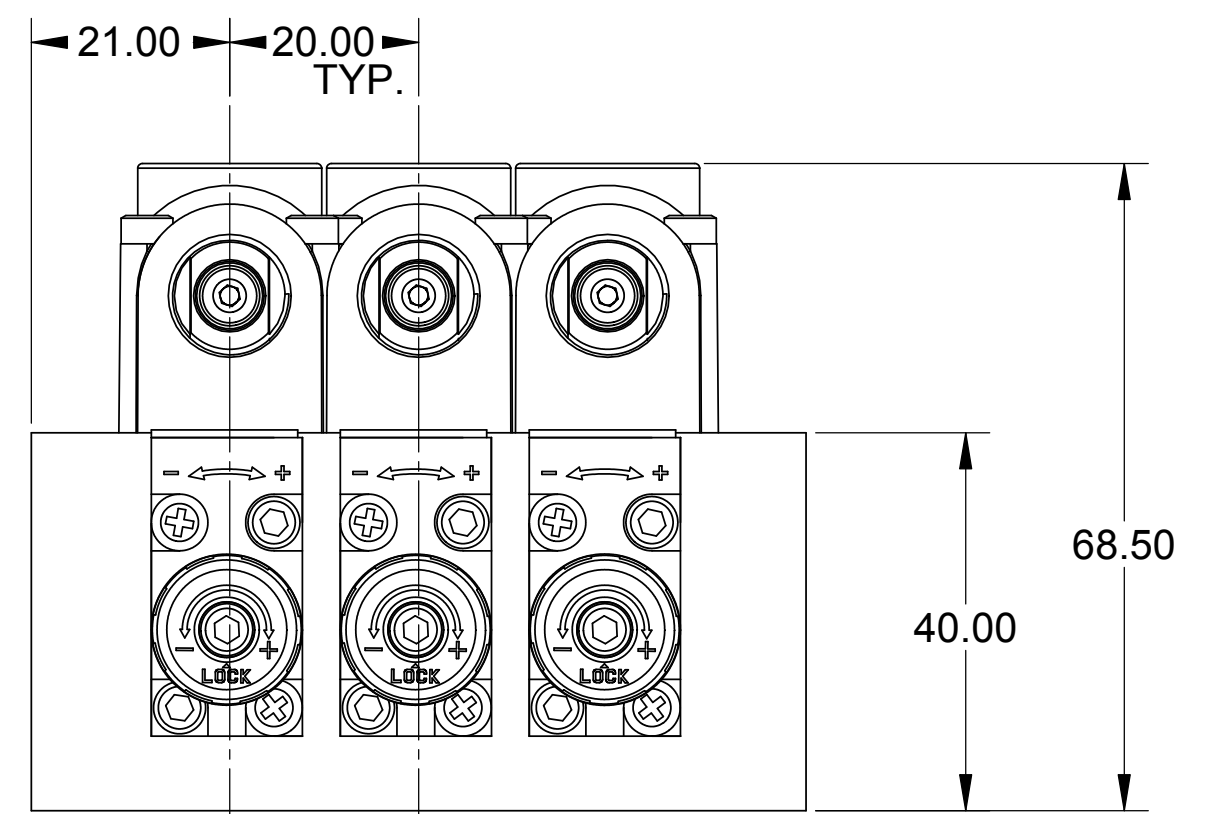


1" - 11 1/2 N.P.S.M. TAP  
8.5 FULL THREAD DEPTH  
TYP. BOTH ENDS

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS



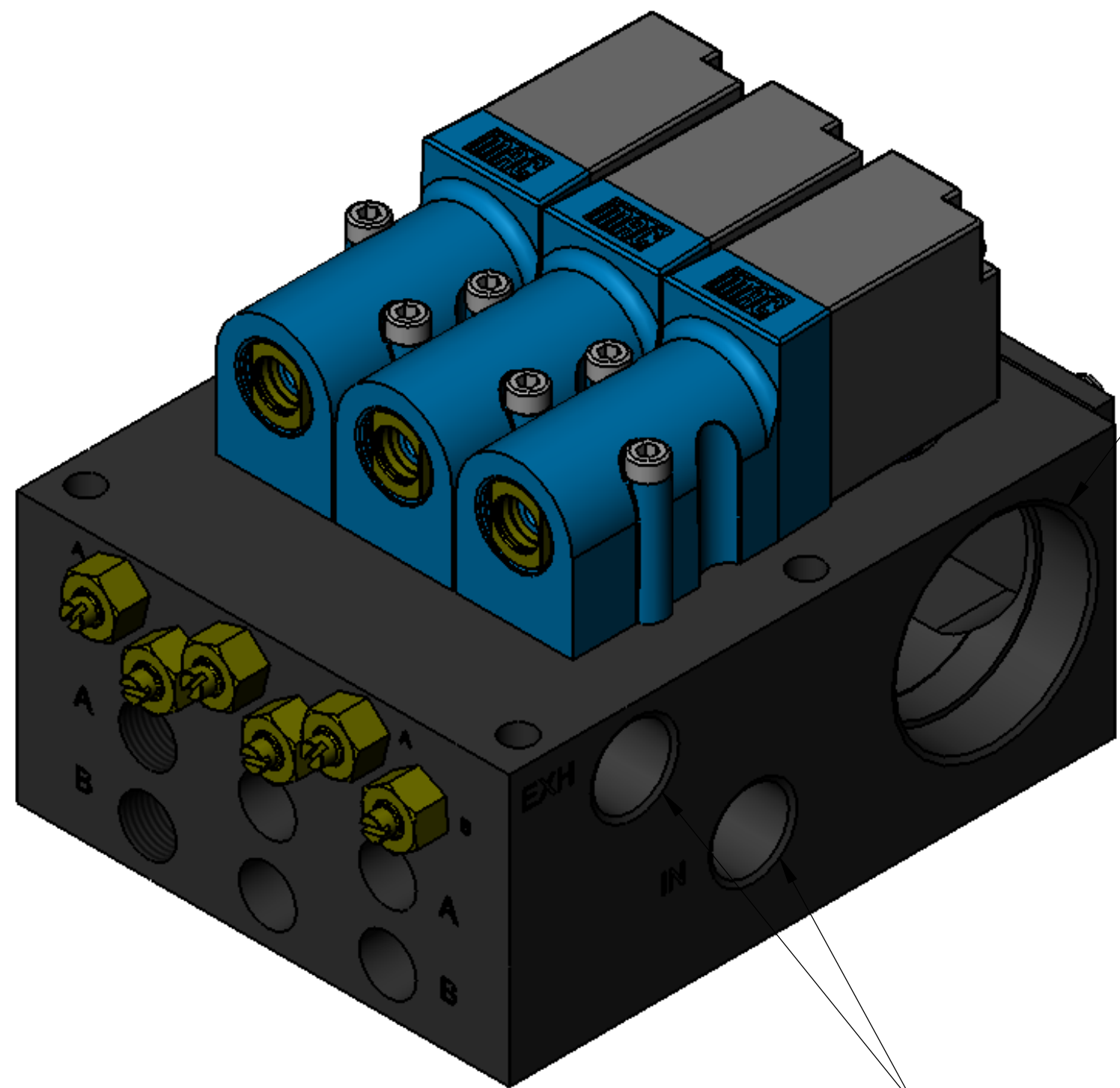
SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION



# ECD46LA-00CAA-A0XX

\*SHOWN WITH PR46A-0BAA

\*SHOWN W/ #1 OPERATOR



1" - 11 1/2 N.P.S.M. TAP  
8.5 FULL THREAD DEPTH  
TYP. BOTH ENDS

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS

5.00  
TYP. (2)

82.00

72.00  
TYP. (2)

107.25

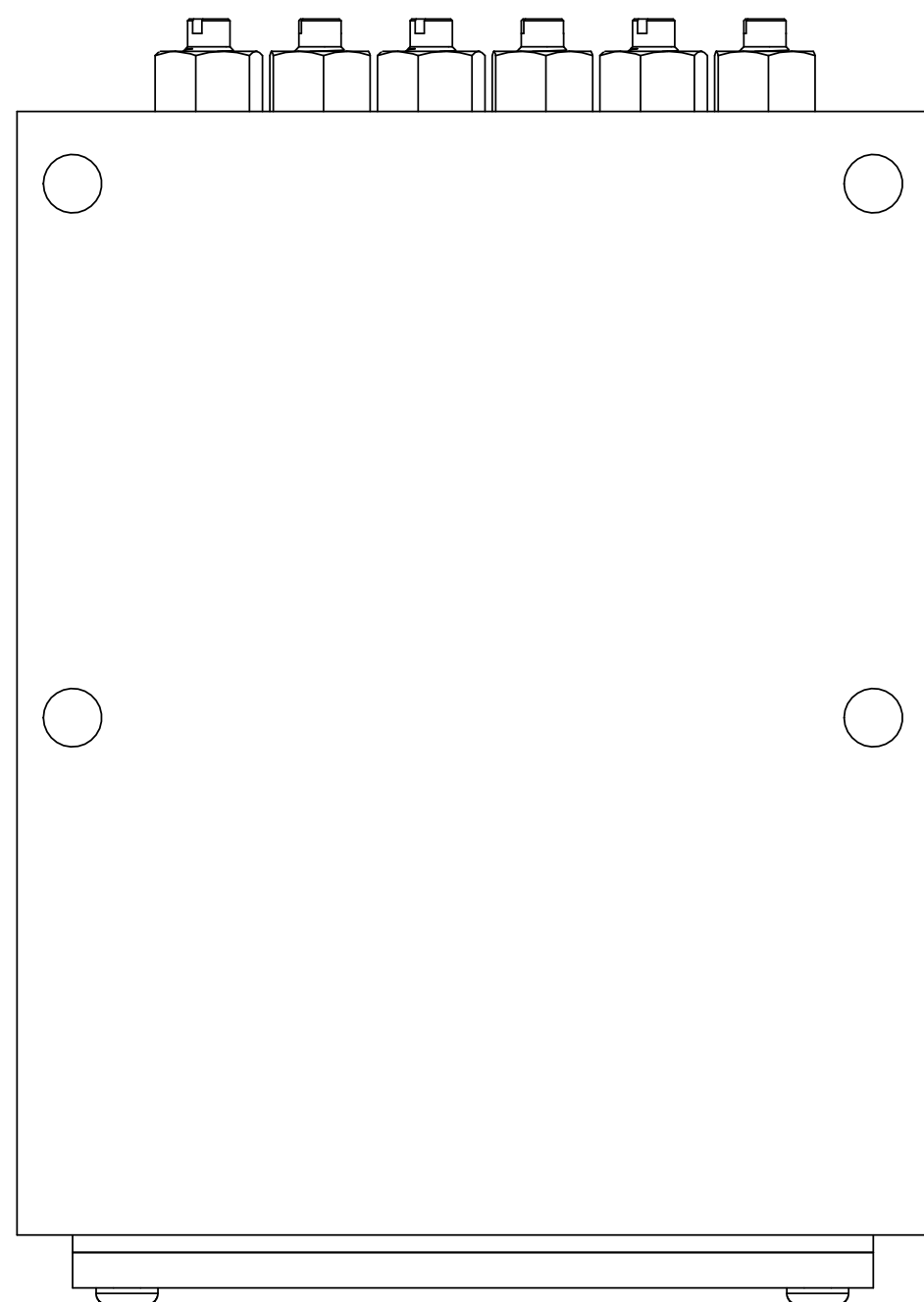
115.55

48.00  
TYP. (2)

Ø5.25 THRU  
TYP. (4)

21.00 20.00  
TYP.

6.50  
TYP. (2)



SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION

13.00  
TYP.

73.50

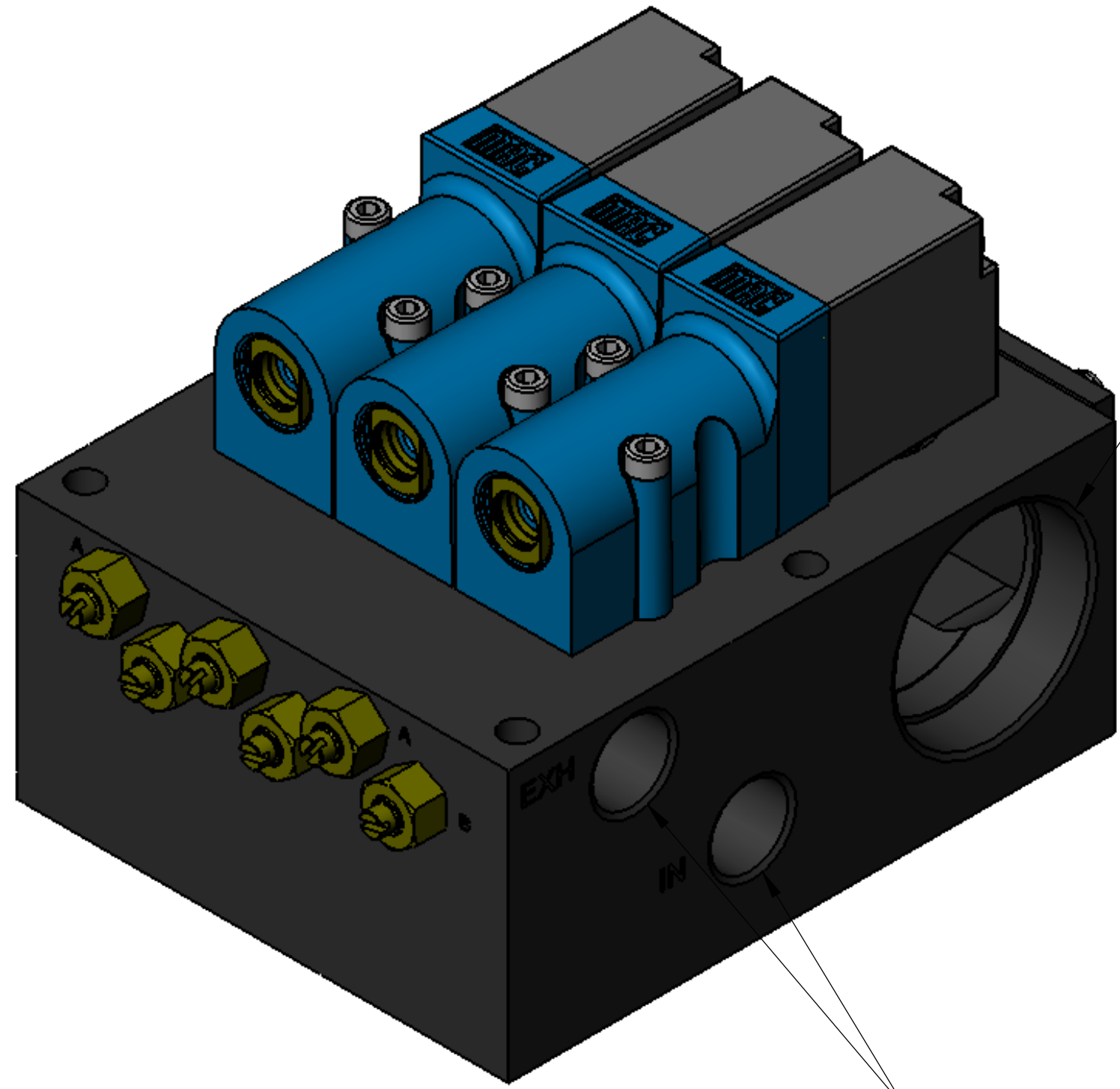
45.00

7.50  
TYP.

21.76 20.00  
TYP.

**ECD46LA-00DAA-A0XX**

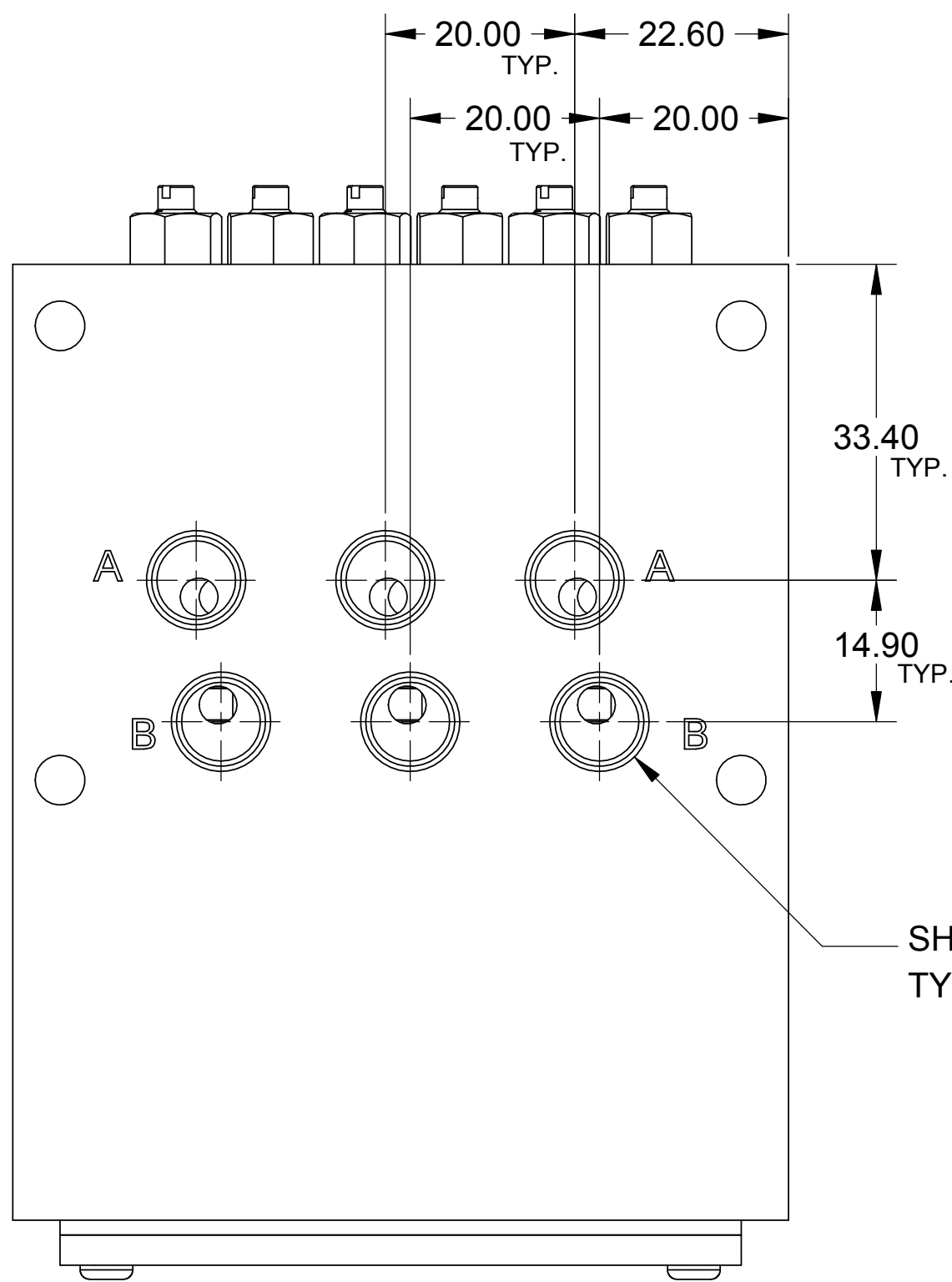
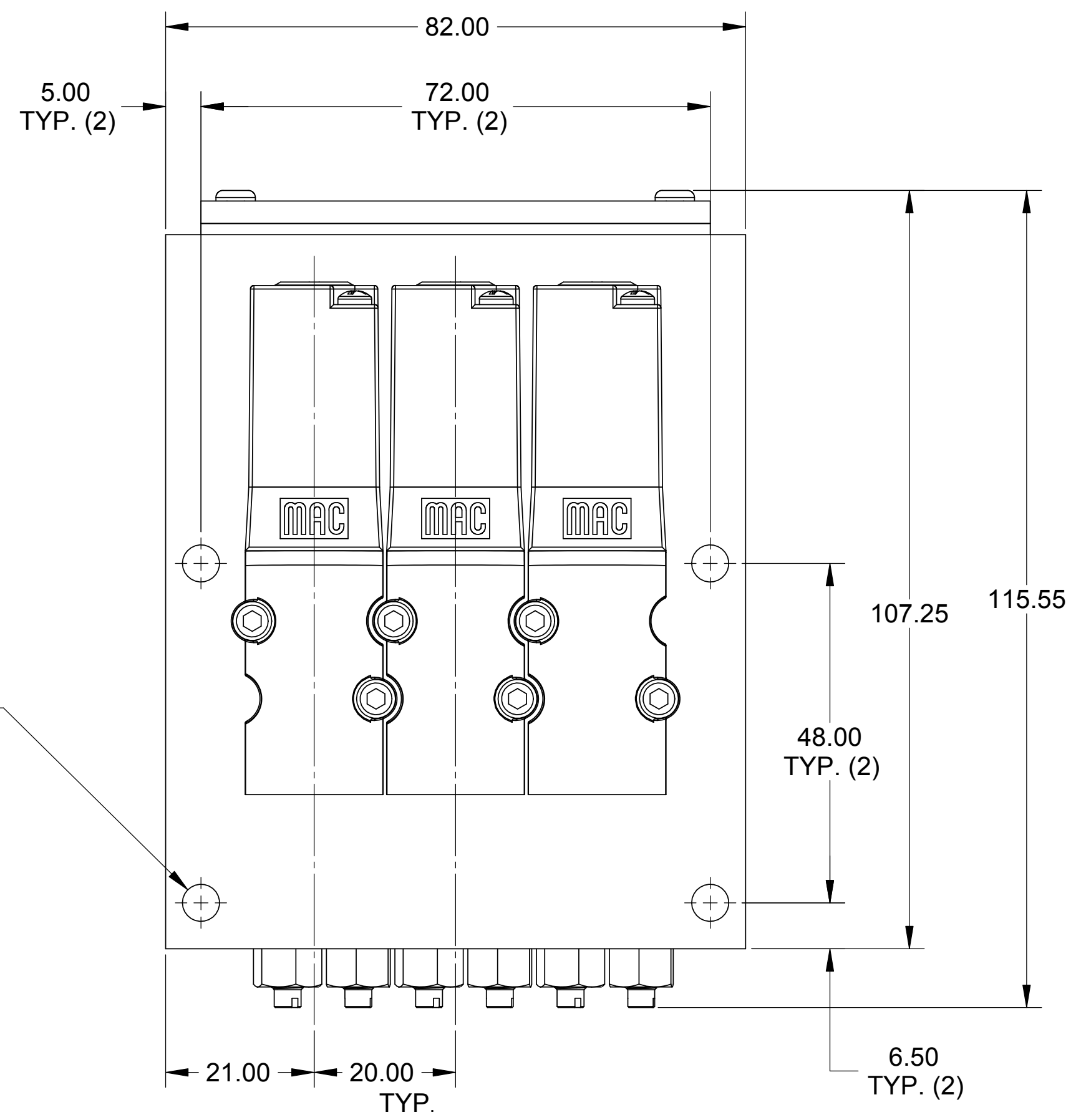
\*SHOWN W/ #1 OPERATOR



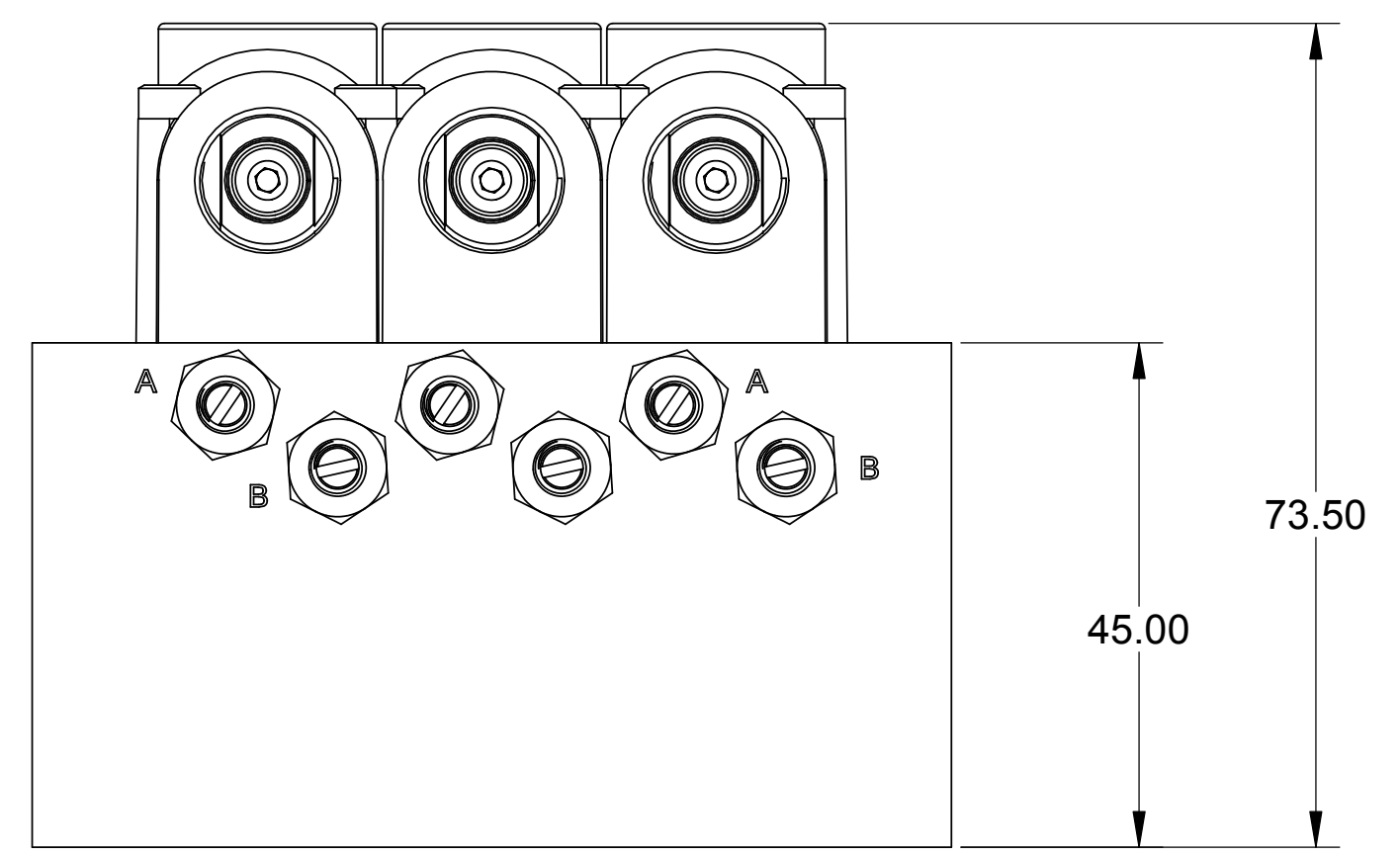
1" - 11 1/2 N.P.S.M. TAP  
8.5 FULL THREAD DEPTH  
TYP. BOTH ENDS

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS

Ø 5.25 THRU  
TYP. (4)

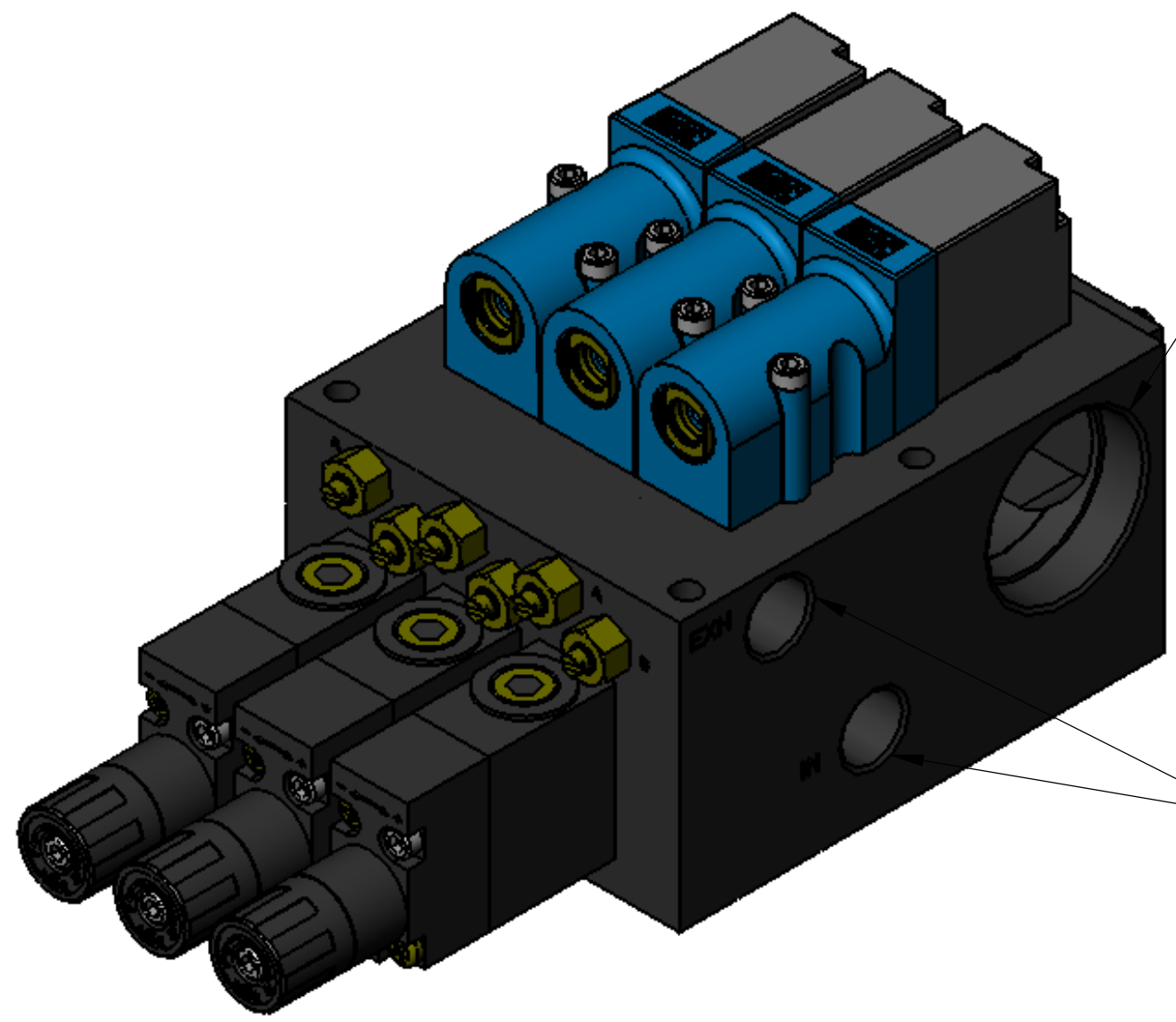


SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION



# ECD46LA-00EAA-A0XX

\*SHOWN W/ #1 OPERATOR



1" - 11 1/2 N.P.S.M. TAP  
8.5 FULL THREAD DEPTH  
TYP. BOTH ENDS

1/4" - 18 N.P.T.F. TAP TO GAGE  
TYP. (2) BOTH ENDS

5.00  
TYP. (2)

82.00  
72.00  
TYP. (2)

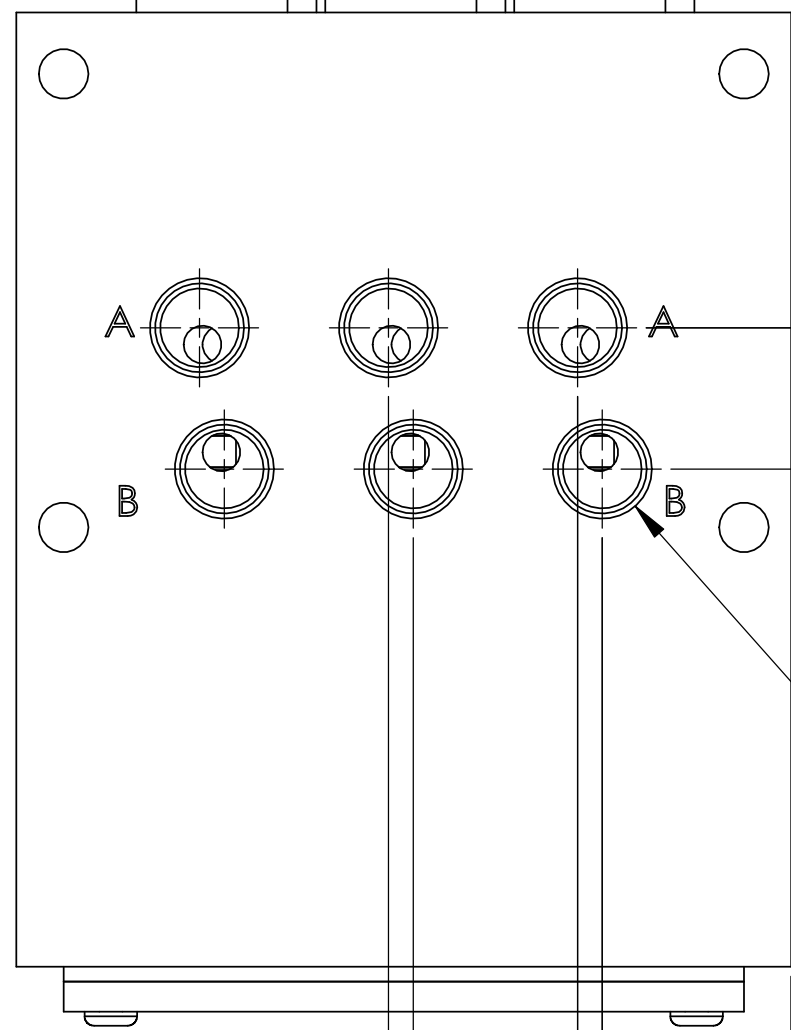
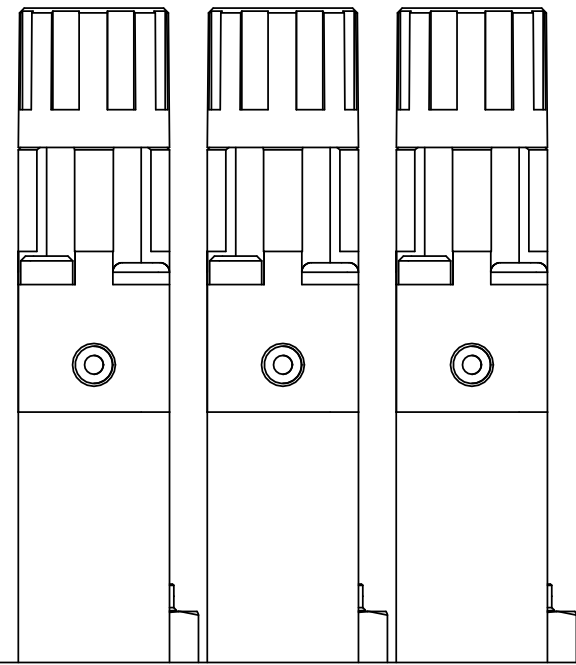
∅5.25 THRU  
TYP. (4)

107.25

48.00  
TYP. (2)

176.50

6.50  
TYP. (2)



33.40  
TYP.

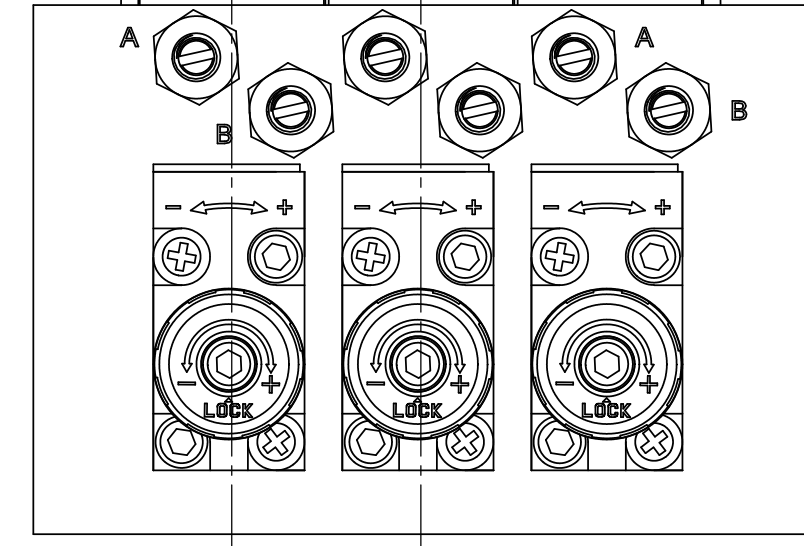
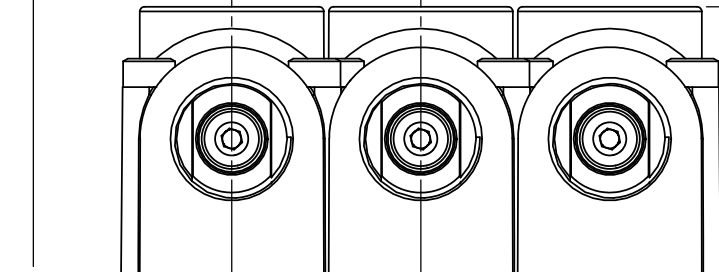
14.90  
TYP.

SHOWN WITH 1/8" N.P.T.F.  
TYP. (2) PER STATION

20.00  
TYP.

20.00  
TYP.

21.00  
20.00  
TYP.



56.00

84.50

# ECD46LA-00FAA-A0XX

\*SHOWN WITH PR46A-0BAA

\*SHOWN W/ #1 OPERATOR