



Specialty Heated and  
Water Systems Components  
Catalog



**Collins Aerospace**

# System Components



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# Water Storage Tanks

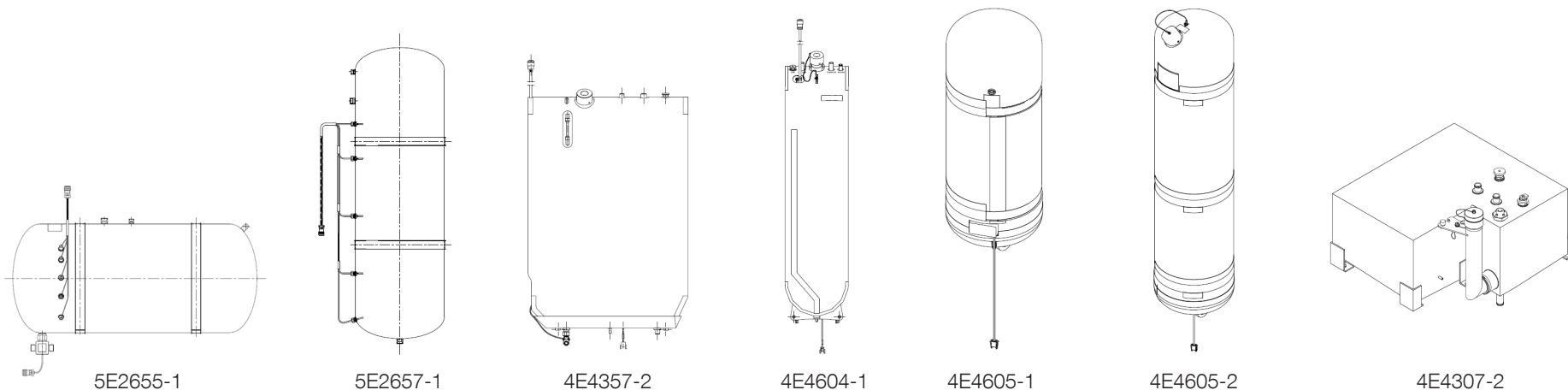
Collins Aerospace offers cylindrical or conformed titanium and stainless steel water tanks that have been sized for various flight requirements. Structural analysis and full qualification testing have been performed on each water tank design. Water tanks include ports for vent and relief valves. Numerous tanks include level sensing and optional heating.





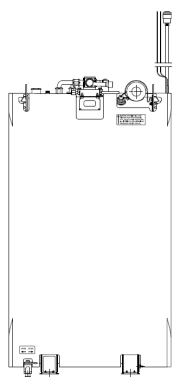
## Water Storage Tanks

| Part Number | Description            | Usable Water Capacity in Gallons | Max Operating Pressure | Envelope          | Weight   | Qual Level | Material                   | Fitting Type                                                                           | Manual Fill Port | Special Features                                                                 |
|-------------|------------------------|----------------------------------|------------------------|-------------------|----------|------------|----------------------------|----------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------|
| 5E2655-1    | Cylindrical water tank | 9.9                              | 50 psig                | 27.0"x12.0" dia.  | 12.5 lbs | DO-160C    | 300 series stainless steel | Drain & Overboard: AS33514G8, Air line: AS33514G6                                      | N                | Ports included: 5 water level sensors, drain, overboard line, and air line       |
| 5E2657-1    | Cylindrical water tank | 11.7                             | 50 psig                | 36.0"x11.0" dia.  | 12.7 lbs | DO-160C    | 300 series stainless steel | Fill/Drain & Overboard: AS33514G8, Pneu Port: AS33514G6                                | N                | Ports included: 5 water level sensors, fill/drain, overboard line, and pneumatic |
| 4E4357-2    | Conformal water tank   | 24.7                             | 55 psig                | 25.4"x10.2"x37.6" | 63.7 lbs | DO-160D    | 300 series stainless steel | Drain & Overboard: AS33514-08, Fill: AS33514-10, Drip Tray Drain: MS33660-6            | Y                | Ports included: fill, overboard, drain, and sight tube                           |
| 4E4604-1    | Cylindrical water tank | 28.6                             | 55 psig                | 12.7"x19.3"x51.2" | 44 lbs   | DO-160D    | Titanium                   | Overboard: AS33514-08, Drain: AS33514-12, Return: AS1656-1-08, Drip Fitting: AS5131B06 | Y                | Ports included: return line, overflow, auxiliary tank, and drain                 |
| 4E4605-1    | Cylindrical water tank | 10.0                             | 55 psig                | 32.3"x12.0" dia.  | 12.5 lbs | DO-160D    | Titanium                   | Fill: AS33514G8, Drain: AS33514G12, Drip Fitting: AS5131B6                             | N                | Ports included: drain tee                                                        |
| 4E4605-2    | Cylindrical water tank | 17.5                             | 55 psig                | 52.8"x12.0" dia.  | 20 lbs   | DO-160D    | Titanium                   | Fill: AS33514G8, Drain: AS33514G12, Drip Fitting: AS5131B6                             | Y                | Ports included: drain tee                                                        |
| 4E4307-2    | Conformal water tank   | 7.0                              | 30 psig                | 18.2"x16.7"x9.0"  | 26.2 lbs | DO-160C    | 300 series stainless steel | Fill, Drain & Overflow: AS1656-1-08                                                    | Y                | Ports included: fill, overflow, deployable water tank fill arm                   |

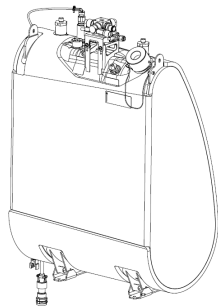


## Water Storage Tanks

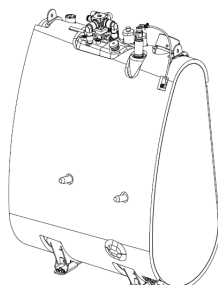
| Part Number | Description          | Usable Water Capacity in Gallons | Max Operating Pressure | Envelope          | Weight   | Qual Level | Material                   | Fitting Type                                                                           | Manual Fill Port | Special Features                                                      |
|-------------|----------------------|----------------------------------|------------------------|-------------------|----------|------------|----------------------------|----------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------|
| 4E4293-3    | Conformal water tank | 30.0                             | 50 psig                | 20.3"x12.5"x35.1" | 64.7 lbs | DO-160D    | 300 series stainless steel | Air conn: AS1656-3-06, Drain & Fill: AS1656-1-08, Overflow: AS1656-3-08                | Y                | Ports included: air connection, fill, drain, overflow, four way valve |
| 4E4979-1    | Conformal water tank | 20.0                             | 58 psig                | 22.1"x12.2"x28.3" | 33 lbs   | DO-160E    | Titanium                   | Fill & Drain: AS1656-1-08, Overflow: AS1656-3-08, Air conn: AS4375E6 (on check valves) | Y                | Ports included: fill, overflow, pressure transducer                   |
| 4E4979-2    | Conformal water tank | 20.0                             | 58 psig                | 22.1"x12.2"x28.3" | 33 lbs   | DO-160E    | Titanium                   | Fill & Drain: AS1656-1-08, Overflow: AS1656-3-08, Air conn: AS4375E6 (on check valves) | Y                | Ports included: fill, overflow, pressure transducer                   |
| 4E5418-1    | Conformal water tank | 15.0                             | 58 psig                | 14.8"x15.5"x30.3" | 28.8 lbs | DO-160G    | Titanium                   | Fill & Drain: AS1656-1-08, Overflow: AS1656-1-08, Air conn: AS4375E6 (on check valves) | Y                | Ports included: fill, overflow, pressure transducer                   |
| 4E5418-2    | Conformal water tank | 15.0                             | 58 psig                | 14.1"x16.5"x30.9" | 28.5 lbs | DO-160G    | Titanium                   | Fill & Drain: AS1656-1-08, Overflow: AS1656-1-08, Air conn: AS4375E6 (on check valves) | Y                | Ports included: fill, overflow, pressure transducer                   |



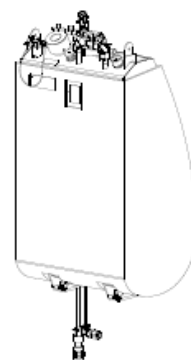
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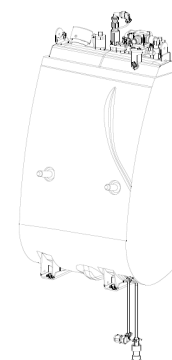
4E4979-1



4E4979-2



4E5418-1



4E5418-2



# 28 VDC Motorized Valves

Collins Aerospace offers 28 VDC motorized stainless steel ball valves with low pressure drop levels. Pulse width modulation is available on selected models only. Full qualification testing has been performed on each motorized valve design. Position switches are used for fault detection and optional valve heaters are available on select models.

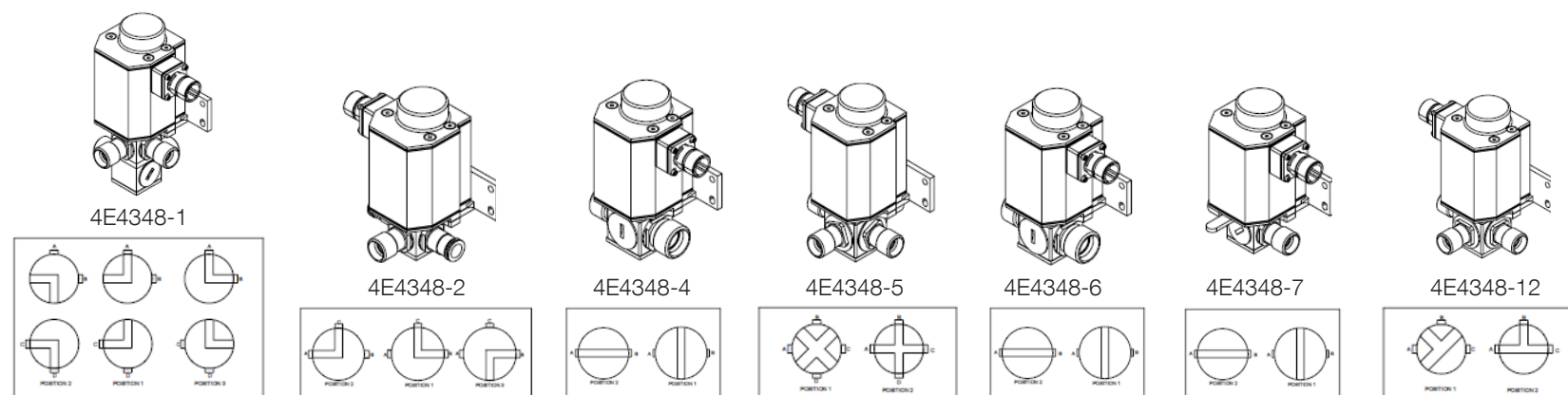




## 28 VDC Motorized Valves

Note: All are 300 series stainless steel, 11 watts, and include mounting brackets.

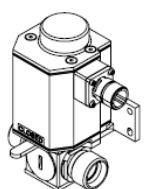
| Part Number | Number of Positions | Number of Ports | Envelope       | Weight  | Qual Level | Fitting Type                                                     | Electrical Connector                                             | Silicon Heater Option | Special Features                                |
|-------------|---------------------|-----------------|----------------|---------|------------|------------------------------------------------------------------|------------------------------------------------------------------|-----------------------|-------------------------------------------------|
| 4E4348-1    | 3                   | 4               | 6.2"x4.7"x3.3" | 2.5 lbs | DO-160D    | 4x end fitting AS33514E8 (MS33514E8)                             | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | Y - PN 4E4372         | Electrical position indication                  |
| 4E4348-2    | 3                   | 3               | 5.0"x4.7"x3.1" | 2.1 lbs | DO-160D    | 2X End Fitting AS1656-1-08, center fitting AS33514E8 (MS33514E8) | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | N                     | Electrical position indication                  |
| 4E4348-4    | 2                   | 2               | 5.0"x4.7"x2.6" | 2 lbs   | DO-160D    | 2X End Fitting AS33514E8 (MS33514E8)                             | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | Y - PN 4E4372-8       | Electrical position indication                  |
| 4E4348-5    | 2                   | 4               | 5.3"x4.7"x2.6" | 2.5 lbs | DO-160D    | 4X End Fitting AS33514E8 (MS33514E8)                             | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | Y - PN 4E4372-6       | Electrical position indication                  |
| 4E4348-6    | 2                   | 2               | 5.3"x4.7"x2.6" | 2.3 lbs | DO-160D    | 2X End Fitting AS33514E12 (MS33514E12)                           | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | N                     | Electrical position indication                  |
| 4E4348-7    | 2                   | 2               | 5.3"x4.7"x2.6" | 2.5 lbs | DO-160D    | 2X End Fitting AS33514E8 (MS33514E8)                             | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | N                     | Manual override, electrical position indication |
| 4E4348-12   | 2                   | 2               | 5.3"x4.7"x3.3" | 2.3 lbs | DO-160D    | 3X End Fitting AS33514E8 (MS33514E8)                             | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv. | Y - PN 4E4372-9       | Electrical position indication                  |



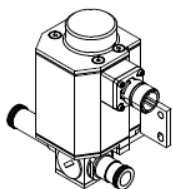
## 28 VDC Motorized Valves

Note: All are 300 series stainless steel, 11 watts, and include mounting brackets.

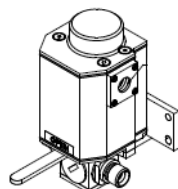
| Part Number | Number of Positions | Number of Ports | Envelope       | Weight  | Qual Level | Fitting Type                                             | Electrical Connector                                               | Silicon Heater Option | Special Features                                                            |
|-------------|---------------------|-----------------|----------------|---------|------------|----------------------------------------------------------|--------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------|
| 4E4348-13   | 2                   | 2               | 5.3"x4.7"x2.6" | 2.1 lbs | DO-160D    | 2X End Fitting AS33514E12 (MS33514E12)                   | MIL-C-38999 (D38999/20MB35P) Mates with D38999/26MB35S or equiv.   | N                     | Manual override, electrical position indication                             |
| 4E4348-14   | 2                   | 2               | 5.1"x4.7"x2.6" | 2.5 lbs | DO-160D    | 2X End Fitting AS1656-1-08                               | MIL-C-38999 (D38999/20MB35PN) Mates with D38999/26MB35SN or equiv. | N                     | Electrical position indication                                              |
| 4E4482-1    | 2                   | 2               | 5.1"x3.7"x2.6" | 2 lbs   | DO-160D    | 2X End Fitting AS33514E6                                 | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Manual override, stall protection, electrical position indication           |
| 4E4483-1    | 2                   | 3               | 5.1"x3.7"x3.3" | 2.5 lbs | DO-160D    | 3X End Fitting AS1656-1-08                               | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Manual override, stall protection, electrical position indication           |
| 4E4484-1    | 2                   | 4               | 6.3"x4.7"x2.6" | 2.5 lbs | DO-160D    | 4X End Fitting AS1656-1-08                               | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Manual override, stall protection, electrical position indication           |
| 4E4485-1    | 2                   | 2               | 5.1"x3.9"x2.6" | 2 lbs   | DO-160D    | 2X End Fitting AS1656-1-08                               | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Manual override, stall protection, electrical position indication           |
| 4E4491-1    | 2                   | 3               | 6.3"x3.7"x2.8" | 2 lbs   | DO-160D    | 2X End Fitting AS33514E8, center ell fitting AS1656-2-08 | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Visual position indicator, stall protection, electrical position indication |
| 4E4492-1    | 3                   | 3               | 5.1"x4.5"x3.5" | 2.1 lbs | DO-160D    | 3X End Fitting AS33514E8                                 | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Manual override, stall protection, electrical position indication           |



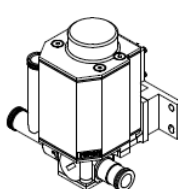
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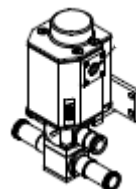
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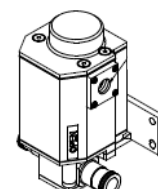
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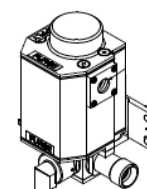
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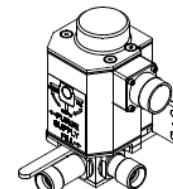
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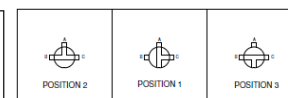
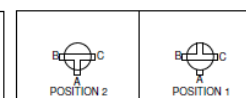
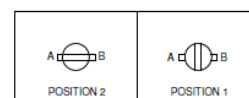
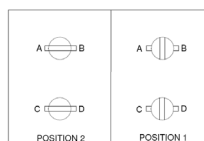
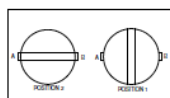
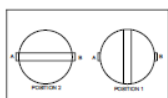
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4E4491-1



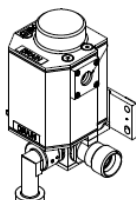
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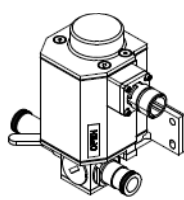
## 28 VDC Motorized Valves

Note: All are 300 series stainless steel, 11 watts, and include mounting brackets.

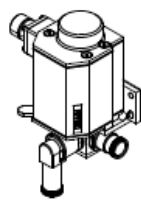
| Part Number | Number of Positions | Number of Ports | Envelope       | Weight   | Qual Level | Fitting Type                                              | Electrical Connector                                               | Silicon Heater Option | Special Features                                                            |
|-------------|---------------------|-----------------|----------------|----------|------------|-----------------------------------------------------------|--------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------|
| 4E4493-1    | 2                   | 3               | 6.3"x4.0"x2.9" | 2.25 lbs | DO-160D    | 2X End Fitting AS33514E10, center ell fitting AS1656-2-10 | MS24266R14B15PN Mates with MS24264R14B15SN or equiv.               | N                     | Visual position indicator, stall protection, electrical position indication |
| 4E4872-1    | 2                   | 2               | 5.1"x5.4"x3.0" | 1.8 lbs  | DO-160E    | 2X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/20MB35PA) Mates with D38999/26MB35SA or equiv. | N                     | Manual override, stall protection, electrical position indication           |
| 4E4872-2    | 2                   | 2               | 5.1"x5.4"x3.0" | 1.8 lbs  | DO-160E    | 2X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/20MB35PB) Mates with D38999/26MB35SB or equiv. | N                     | Manual override, stall protection, electrical position indication           |
| 4E4872-3    | 2                   | 2               | 5.1"x4.7"x2.7" | 1.8 lbs  | DO-160E    | 2X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/20MB35PA) Mates with D38999/26MB35SA or equiv. | N                     | Manual override, stall protection, electrical position indication           |
| 4E4872-4    | 2                   | 2               | 5.1"x4.7"x3.0" | 1.8 lbs  | DO-160E    | 2X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/20MB35PB) Mates with D38999/26MB35SB or equiv. | N                     | Manual override, stall protection, electrical position indication           |
| 4E4873-11   | 2                   | 3               | 6.3"x4.2"x2.6" | 2 lbs    | DO-160E    | 3X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/20MB35PA) Mates with D38999/26MB35SA or equiv. | N                     | Manual override, stall protection, electrical position indication           |
| 4E4873-22   | 2                   | 3               | 6.3"x4.2"x2.6" | 2 lbs    | DO-160E    | 3X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/20MB35PB) Mates with D38999/26MB35SB or equiv. | N                     | Manual override, stall protection, electrical position indication           |



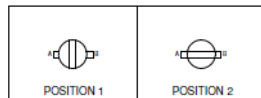
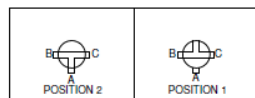
4E4493-1



4E4872 Series



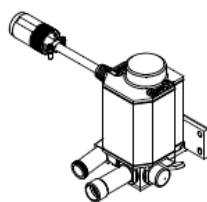
4E4873 Series



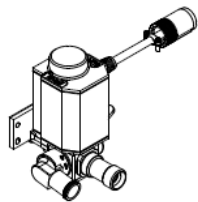
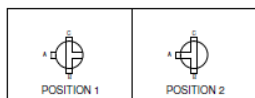
## 28 VDC Motorized Valves

Note: All are 300 series stainless steel, 11 watts, and include mounting brackets.

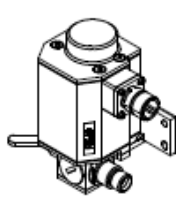
| Part Number | Number of Positions | Number of Ports | Envelope       | Weight  | Qual Level | Fitting Type                                              | Electrical Connector                                               | Silicon Heater Option | Special Features                                                  |
|-------------|---------------------|-----------------|----------------|---------|------------|-----------------------------------------------------------|--------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------|
| 4E4874-11   | 2                   | 3               | 5.1"x4.1"x5.1" | 2.2 lbs | DO-160E    | 2X End Fitting AS33514E8, center ell fitting AS1656-1-08  | MIL-C-38999 (D38999/20MB35PA) Mates with D38999/26MB35SA or equiv. | N                     | Manual override, stall protection, electrical position indication |
| 4E4874-22   | 2                   | 3               | 5.1"x4.1"x5.1" | 2.2 lbs | DO-160E    | 2X End Fitting AS33514E8, center ell fitting AS1656-1-08  | MIL-C-38999 (D38999/20MB35PB) Mates with D38999/26MB35SB or equiv. | N                     | Manual override, stall protection, electrical position indication |
| 4E4875-3    | 2                   | 3               | 5.3"x4.1"x5.1" | 2.5 lbs | DO-160E    | 2X End Fitting AS33514E10, center ell fitting AS1656-1-10 | MIL-C-38999 (D38999/26MB35PN) Mates with D38999/20MB35SN or equiv. | N                     | Manual override, stall protection, electrical position indication |
| 4E4876-1    | 2                   | 2               | 5.1"x4.2"x3.0" | 1.8 lbs | DO-160E    | 2X End Fitting AS33514E6                                  | MIL-C-38999 (D38999/20MB35PN) Mates with D38999/26MB35SN or equiv. | N                     | Manual override, stall protection, electrical position indication |
| 4E4916-11   | 3                   | 3               | 5.1"x4.1"x2.8" | 2.2 lbs | DO-160E    | 3X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/26MB35PN) Mates with D38999/20MB35SN or equiv. | N                     | Manual override, stall protection, electrical position indication |
| 4E4916-33   | 2                   | 3               | 5.1"x4.1"x2.8" | 2.2 lbs | DO-160E    | 3X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/26MB35PN) Mates with D38999/20MB35SN or equiv. | N                     | Manual override, stall protection, electrical position indication |
| 4E4916-5    | 2                   | 2               | 5.1"x4.1"x3.0" | 2.2 lbs | DO-160E    | 2X End Fitting AS1656-1-08                                | MIL-C-38999 (D38999/26MB35PA) Mates with D38999/20MB35SA or equiv. | N                     | Manual override, stall protection, electrical position indication |



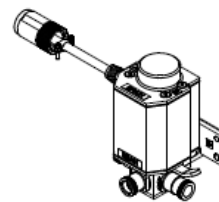
4E4874 Series



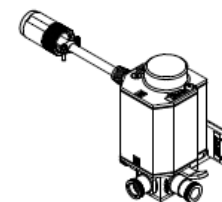
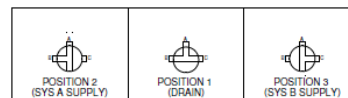
4E4875-3



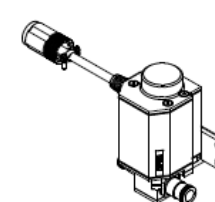
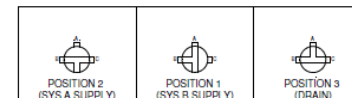
4E4876-1



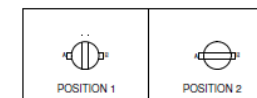
4E4916-11



4E4916-33



4E4916-5







# Manual Valves

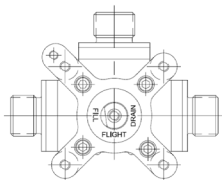
Collins Aerospace also offers manual or cable actuated valves for fill, drain and shut-off.



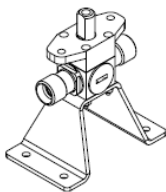
Manual Valves

Note: All are 300 series stainless steel and include mounting brackets.

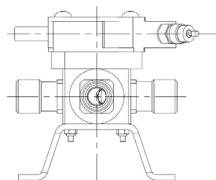
| Part Number | Number of Ports | Number of Positions | Envelope       | Weight  | Qual Level           | Fitting Type                                                     | Special Features                     |
|-------------|-----------------|---------------------|----------------|---------|----------------------|------------------------------------------------------------------|--------------------------------------|
| 3E3209-1    | 5               | 3                   | 2.8"x3.8"x6.0" | 2.5 lbs | MIL-STD-810E/DO-160C | 4X End Fitting AS33514E8 (MS33514E8)                             | Fill/Drain/Flight positions, 50 psig |
| 4E4277-2    | 4               | 2                   | 4.0"x2.5"x4.6" | 1 lb    | DO-160D              | 2X End Fitting AS1656-1-08, center fitting AS33514E8 (MS33514E8) | Fill/Flight positions, 55 psig       |
| 4E4278-1    | 4               | 2                   | 3.0"x3.6"x3.6" | 1.8 lbs | DO-160D              | 2X End Fitting AS33514E8 (MS33514E8)                             | Fill/Flight positions, 55 psig       |
| 4E4474-1    | 2               | 2                   | 2.6"x2.0"x2.1" | 0.5 lbs | DO-160D              | 4X End Fitting AS33514E8 (MS33514E8)                             | Open/Close positions, 50 psig        |



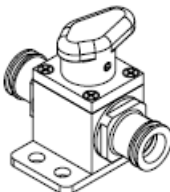
3E3209-1



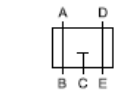
4E4277-2



4E4278-1



4E4474-1



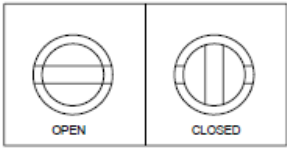
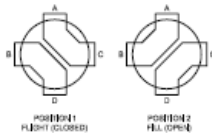
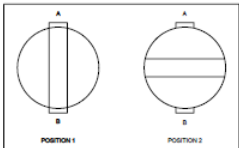
**FILL MODE**  
PORTS A AND B = OPEN  
PORTS D AND E = OPEN  
PORT C = CLOSED



**FLIGHT MODE**  
PORTS A AND C = OPEN  
PORTS B, D AND E = CLOSED



**DRAIN MODE**  
PORTS B AND C = OPEN  
PORTS D AND E = OPEN  
PORT A = CLOSED



# Control Cables and Gear Boxes

The Control Cable, Handle Assembly and Gearbox Assembly provide the mechanical means for opening the Potable Water System (PWS) tank fill valves. These components are typically accessed from the aircraft's external service panel.

To operate, the control cable handle is rotated 90° counterclockwise from its detented closed position, and the handle is then pulled, opening the fill/overflow valve. After the PWS is filled, the handle is pushed in to the closed position and turned 90° clockwise to lock in place.



## Control Cables and Gearboxes

| Part Number | Length | Weight  | Qual Level | Special Features                                                     |
|-------------|--------|---------|------------|----------------------------------------------------------------------|
| 4E3384-1    | 134.7" | 2.9 lbs | DO-160C    | Input & output gearboxes included. Input handle is 3E3204-1          |
| 4E4181-3    | 138.0" | 2.0 lbs | DO-160D    | Input Handle and cable only (no gearbox). Output gearbox is 4E4181-2 |
| 4E4181-5    | 146.8" | 2.1 lbs | DO-160D    | Input Handle and cable only (no gearbox). Output gearbox is 4E4181-2 |
| 4E4877-1    | 172.6" | 2.3 lbs | DO-160E    | Input handle and cable only (no gearbox) Output gearbox is 4E4877-3  |
| 4E4877-2    | 163.1" | 2.2 lbs | DO-160E    | Input handle and cable only (no gearbox) Output gearbox is 4E4877-4  |

# Miscellaneous Valves

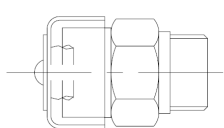
## Vent Valves, Drain Check Valves, Float Check Valves

Vent and check valves are available to allow proper system drainage, isolation and prevent a backflow condition.

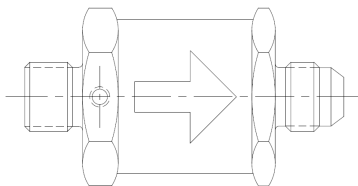


## Miscellaneous Valves

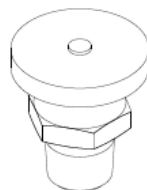
| Part Number | Description       | Envelope       | Weight  | Qual Level               | Material                   | Operating Pressure | Fittings                                               | Special Features                                        |
|-------------|-------------------|----------------|---------|--------------------------|----------------------------|--------------------|--------------------------------------------------------|---------------------------------------------------------|
| 2E1922-2    | Check valve       | 1.4"x0.9" dia. | N/A     | N/A                      | 316 series stainless steel | 140 psig cracking  | 0.25" NPT (male)                                       |                                                         |
| 4E3262-1    | Check valve       | 2.6"x1.3"x1.3" | 0.6 lbs | MIL-STD-810E/<br>DO-160C | 300 series stainless steel | 50 psig            | AS33514E6 inlet fitting,<br>AS4995E6 outlet fitting    |                                                         |
| 4E3261-4    | Vent valve        | 1.2"x1.1"x1.1" | 0.1 lbs | DO-160D                  | 300 series stainless steel | 55 psig            | AS33514E6 fitting                                      |                                                         |
| 4E3261-5    | Vent valve        | 1.4"x1.1"x1.1" | 0.1 lbs | DO-160D                  | 300 series stainless steel | 55 psig            | AS5201C04 fitting                                      |                                                         |
| 4E4350-1    | Float check valve | 2.6"x1.4"x1.4" | 0.3 lbs | DO-160E                  | Ultem 1000                 | 80 psig proof      | AS1656-3-8 inlet fitting,<br>AS1656-1-8 outlet fitting | Prevents drained water from backing up into drain tray. |
| 4E4350-2    | Float check valve | 2.6"x1.4"x1.4" | 0.3 lbs | DO-160D                  | Ultem 1000                 | 80 psig proof      | AS5131-08 fitting                                      | Prevents drained water from backing up into drain tray. |



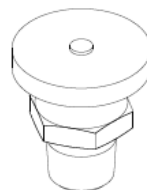
2E1922-2



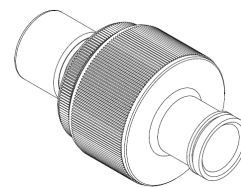
4E3262-1



4E3261-4



4E3261-5



4E4350 Series



# Freeze Protection Heaters

## Silicone, Kapton and Innerline

Collins Aerospace heaters offer freeze protection for the water system throughout the aircraft. Several heaters offer integrated electronic thermostats with fault sensing (ESTAT™ Controller).



## Freeze Protection Heaters

| Part Number   | Description                  | Envelope              | Weight      | Heater Fits Part Number | Qual Level | Material                     | Power Consumption | Supply Voltage | Temp Control          | Special Features     |
|---------------|------------------------------|-----------------------|-------------|-------------------------|------------|------------------------------|-------------------|----------------|-----------------------|----------------------|
| 4E3268-2      | Water tank heater            | 37.5"x10.9"x0.3"      | 0.7 lbs     | 5E2655-2                | DO-160C    | Polyimide film               | 181.2W            | 115 VAC        | External Temp Control | Integral temp sensor |
| 3E3295-1      | Check valve heater           | 1.0"x1.8"x1.8"        | 0.1 lbs     | 3E3262-1                | DO-160C    | Silicone                     | 10.6W             | 115 VAC        | External Temp Control |                      |
| 3E3299-2      | Fill/drain valve heater      | 3.3"x3.4"x2.7"        | 0.3 lbs     | 3E3209-1                | DO-160C    | Silicone                     | 21.9W             | 115 VAC        | External Temp Control |                      |
| 3E3303-1      | Pressure relief valve heater | 0.7"x1.8"x1.8"        | 0.1 lbs     | 4E3263-1                | DO-160C    | Silicone                     | 6.0W              | 115 VAC        | External Temp Control |                      |
| 4E4385-1      | Flow restrictor heater       | 1.6"x1.8"x2.4"        | 0.4 lbs     | 3E2650-2                | DO-160D    | Silicone                     | 19.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4372-2      | Valve heater                 | 3.9"x3.9"x3.5"        | 0.5 lbs     | 4E4384-1                | DO-160D    | Silicone                     | 20.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4372-6      | Valve heater                 | 4.3"x4.3"x2.5"        | 0.4 lbs     | 4E4348-5                | DO-160D    | Silicone                     | 16.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4372-8      | Valve heater                 | 4.0"x2.0"x2.5"        | 0.4 lbs     | 4E4348-4                | DO-160D    | Silicone                     | 11.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4377-2      | Heated valve manifold        | 7.2"x2.0"x5.0"        | 0.9 lbs     | N/A                     | DO-160D    | Glass fiber cloth reinforced | 11.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E3389-19     | Heated wye fitting           | 6.0"x1.0"x3.0"        | 0.9 lbs     | N/A                     | DO-160D    | Glass fiber cloth reinforced | 16.1W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E3389-20     | Heated wye fitting           | 3.7"x1.1"x2.8"        | 0.4 lbs     | N/A                     | DO-160D    | Silicone                     | 11.5W             | 115 VAC        | External Temp Control |                      |
| 4E4308-2      | Tube heater                  | 2.9"x1.5"x1.5"        | 0.2 lbs     | 4E3264-3 drain mast     | DO-160D    | Silicone                     | 12.1W             | 115 VAC        | External Temp Control |                      |
| 4E4282-1      | Drain port heater            | 9.3"x4.3"x0.8"        | 0.5 lbs     | N/A                     | DO-160D    | Silicone                     | 63.9W             | 115 VAC        | Electronic Thermostat |                      |
| 4E4460 series | Drain port heaters           | 4.3"x3.3"x2.2"        | 0.5 lbs     | N/A                     | DO-160D    | Silicone                     | 35.0W             | 115 VAC        | Electronic Thermostat |                      |
| 4E4879-101    | Drain port heater            | 4.4"x4.5"x3.3"        | 0.9 lbs     | N/A                     | DO-160E    | 300 series stainless steel   | 75.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4880 series | Innerline heaters            | 90.5-178.6"x0.8"x0.8" | 0.6-0.8 lbs | N/A                     | DO-160E    | 300 series stainless steel   | 38.8 - 97.6W      | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4888-3      | Fill port heater             | 3.3"x2.7"x0.8"        | 0.2 lbs     | 3E3203-3                | DO-160E    | Polyimide film               | 26.5W             | 28 VDC         | External Temp Control | TD5A sensor          |
| 4E4887-104    | Fitting heater               | 5.4"x2.2"x2.5"        | 0.4 lbs     | N/A                     | DO-160E    | Silicone                     | 14.9W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |
| 4E4887-105    | Fitting heater               | 4.9"x7.8"x3.1"        | 0.8 lbs     | N/A                     | DO-160E    | Silicone                     | 35.0W             | 115 VAC        | Electronic Thermostat | Fault monitoring     |

# Heated Hoses

Collins Aerospace heated hoses offer freeze protection for potable water systems. The heaters are controlled by an electronic thermostat (ESTAT™ Controller) with fault sensing which reduces size and weight while offering effective temperature control.



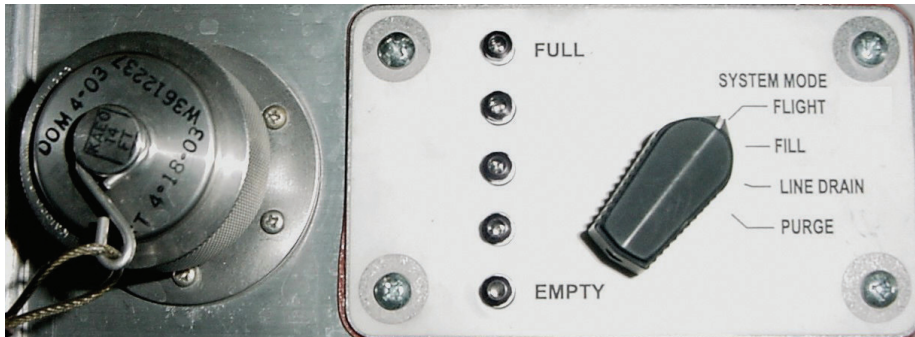
## Heated Hoses

Part-number series denotes multiple part numbers on the same drawing

| Part Number   | Hose Length | Hose Sizes | Weight      | Qual Level | Power Range | Supply Voltage | Temp Control Method   | Special Features                                       |
|---------------|-------------|------------|-------------|------------|-------------|----------------|-----------------------|--------------------------------------------------------|
| 4E3265 series | 10.1-183"   | 0.5"       | 0.4-2.6 lbs | DO-160D    | 15.2-197.4W | 115 VAC        | External temp control | Various end fittings, available w/integral temp sensor |
| 4E4135 series | 12.8-12.9"  | 0.5"       | 0.4-0.4 lbs | DO-160C    | 11.6W       | 115 VAC        | External temp control | Available with/without integral temp sensor            |
| 4E4365 series | 7.4-172.9"  | 0.5"       | 0.5-2.5 lbs | DO-160D    | 12-157W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E4376 series | 10.8-150.9" | 0.75"      | 0.6-3.7 lbs | DO-160D    | 12-165W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E4422 series | 6.4-77.8"   | 0.5"       | 0.4-1.4 lbs | DO-160D    | 11-44W      | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E4425 series | 10.0-151.3" | 0.75"      | 0.8-3.5 lbs | DO-160D    | 14-113W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E4864 series | 23.4-221.3" | 0.5"       | 0.6-3.0 lbs | DO-160E    | 27-200W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E4866 series | 40.3-108.6" | 0.625"     | 1.3-2.5 lbs | DO-160E    | 54-144W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E5412 series | 79.5-213.3" | 0.5"       | 1.6-3.3 lbs | DO-160G    | 81-193W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E5414 series | 73.9-105.5" | 0.625"     | 1.9-2.3 lbs | DO-160G    | 86-109W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E5439 series | 45.9-91.8"  | 0.5"       | 1.3-2.0 lbs | DO-160G    | 51-101W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |
| 4E5441 series | 76.9-87.8"  | 0.625"     | 1.9-2.4 lbs | DO-160G    | 94-104W     | 115 VAC        | Electronic thermostat | Various end fittings, fault monitoring                 |

# Service Panels

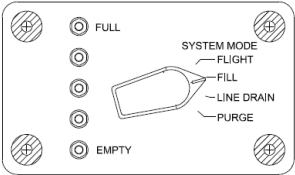
External or Internal Service Panels have capabilities for pressurized fill, mode selection, backup control, internal and external level indication.



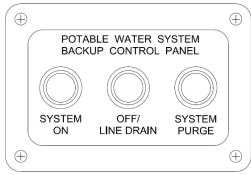
Service Panels

Part-number series denotes multiple part numbers on the same drawing

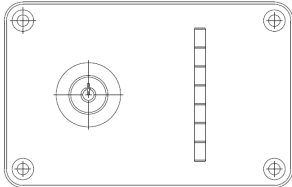
| Part Number   | Description            | Envelope       | Weight  | Qual Level | Material                            | Special Features                        |
|---------------|------------------------|----------------|---------|------------|-------------------------------------|-----------------------------------------|
| 4E3600-1      | External service panel | 4.8"x0.1"x2.8" | 0.9 lbs | DO-160D    | 300 series stainless steel          | 4 position switch, 5 discrete levels    |
| 4E4381-1      | Backup control panel   | 4.0"x2.6"x2.8" | 0.5 lbs | DO-160D    | Aluminum                            | 3 push button w/integral LED indicators |
| 4E4980-1      | Shower indicator panel | 3.9"x3.0"x2.5" | 0.4 lbs | DO-160E    | Aluminum                            | Lighted push button, 7 level indicators |
| 4E4884 series | Indicator panel        | 3.3"x1.1"x3.3" | 0.8 lbs | DO-160E    | Aluminum/300 series stainless steel | 2 tanks, 5 gal. interval, 20 gal max.   |



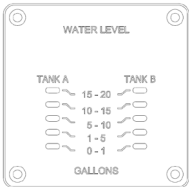
4E3600-1



4E4381-1



4E4980-1



4E4884 Series



# Fill Caps and Adaptors

The Fill Adapter and Cap Assemblies are installed on the aircraft's external service panel and provide a means for attaching the potable water service truck to the aircraft's potable water storage tank. The Fill Adapter is designed to mate with standard aircraft potable water service vehicles and is configured with an attached Cap Assembly that isolates the potable water system from outside contamination.



## Fill Caps and Adaptors

| Part Number | Description        | Envelope       | Weight  | Qual Level    | Material                   | Fitting Size                  |
|-------------|--------------------|----------------|---------|---------------|----------------------------|-------------------------------|
| 3E3203-1    | Fill cap & adaptor | 2.8"x2.4"x4.0" | 0.7 lbs | MIL-STD-810E  | 300 series stainless steel | AS33514E8, Roylyn 3/4" nipple |
| 3E3203-3    | Fill cap & adaptor | 2.8"x2.4"x4.0" | 0.7 lbs | DO-160E       | 300 series stainless steel | AS33514E8, Roylyn 3/4" nipple |
| 3E3590-1    | Fill adaptor       | 2.2"x2.3"x2.3" | 0.3 lbs | Customer Spec | 300 series stainless steel | AS33514E8, Roylyn 3/4" nipple |
| 3E3542-1    | Fill cap           | 1.4"x2.3"x1.8" | 0.5 lbs | Customer Spec | 300 series stainless steel |                               |

# Pneumatic Components

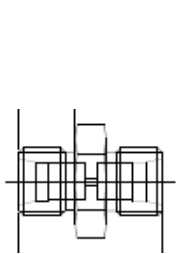
## Flow Restrictor, Air Filter, Check Valves, Pressure Regulator and Pressure Relief Valves

The pneumatic components are normally used with air pressurized potable water systems. Systems use pressure from bleed air (minimal air flow) with an air compressor assist. Check valves provide bleed line backflow protection and the regulators maintain air pressure for constant water flow rates. Pressure transducers provide system pressure indication.

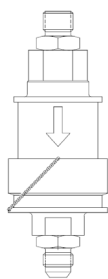


## Pneumatic Components

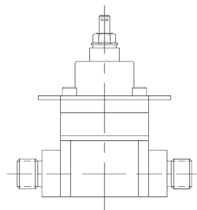
| Part Number | Description           | Envelope       | Weight   | Qual Level           | Material                            | Operating Pressure | Electrical Interface     | Special Features              |
|-------------|-----------------------|----------------|----------|----------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|
| 3E3296-1    | Flow limiter          | 1.2"x0.8"x0.8" | 1.1 lbs  | DO-160C/MIL-STD-810E | 300 series stainless steel          | 120 psig           | N/A                      | 0.062" orifice                |
| 3E3291-1    | Air filter            | 5.1"x1.9"x1.9" | 0.4 lbs  | DO-160C/MIL-STD-810E | Aluminum                            | 50 psig            | N/A                      | Replaceable filter, 10 micron |
| 3E3292-1    | Pressure regulator    | 3.3"x2.6"x3.4" | 0.6 lbs  | DO-160C/MIL-STD-810E | Aluminum                            | 30 psig            | N/A                      | 120 psig max inlet            |
| 4E3261-1    | Vent valve            | 1.2"x1.1"x1.1" | 0.04 lbs | DO-160C/MIL-STD-810E | Aluminum/300 series stainless steel | 50 psig            | N/A                      | 0.34 scfm air flow rate       |
| 4E3262-2    | Check valve           | 2.6"x1.3"x1.3" | 0.2 lbs  | DO-160C/MIL-STD-810E | Aluminum                            | 120 psig           | N/A                      | Proof 180 psig/ burst 360     |
| 4E3263-1    | Pressure relief valve | 1.4"x1.1"x1.1" | 0.2 lbs  | DO-160C/MIL-STD-810E | 300 series stainless steel          | 50 psig            | N/A                      | 20 scfm @ 90 psig             |
| 2E1976-1    | Pressure transducer   | 3.0"x1.0"x1.0" | 0.2 lbs  | DO-160C/MIL-STD-810E | Stainless steel                     | 50 psig (range)    | 10V in, 105mV out (max.) |                               |
| 2E1976-2    | Pressure transducer   | 3.0"x1.0"x1.0" | 0.3 lbs  | DO-160D              | Stainless steel                     | 51 psig (range)    | 10V in, 105mV out (max.) |                               |



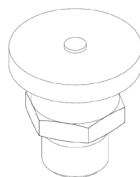
3E3296-1



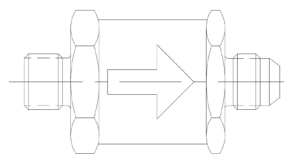
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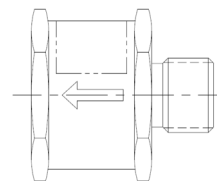
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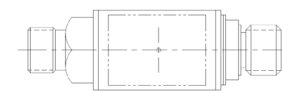
4E3261-1



4E3262-2



4E3263-1

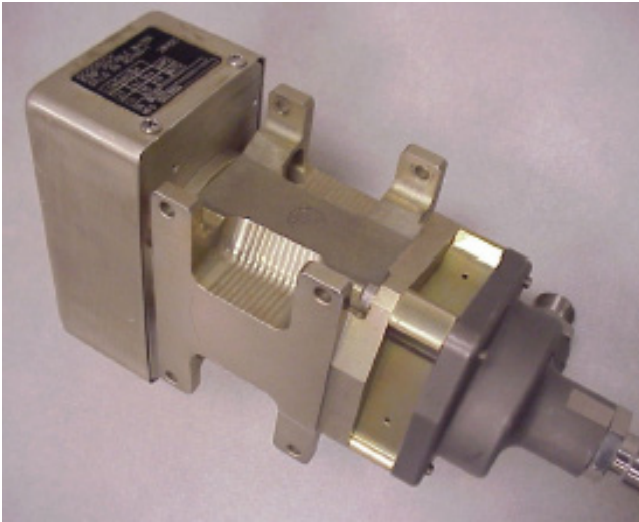


2E1976-1/2

# Water Pump and Air Compressor

The water pump housing is 300 series stainless steel with magnetic coupling, 28 VDC brushless motor and thermal protection.

The air compressor has an aluminium housing and runs on 115 VAC, 3 phase.



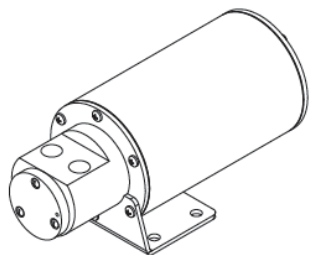
Water Pump



Air Compressor

## Water Pump and Air Compressor

| Part Number | Description    | Envelope       | Weight  | Qual Level           | Material                   | Performance                 | Supply Voltage                          | Special Features                                                    |
|-------------|----------------|----------------|---------|----------------------|----------------------------|-----------------------------|-----------------------------------------|---------------------------------------------------------------------|
| 4E3271-1    | Air compressor | 8.2"x5.3"x6.5" | 6.5 lbs | DO-160C/MIL-STD-810E | Aluminum                   | 1 scfm @ 30 psig            | 115 VAC, 3 phase, 400 Hz, 2 Amp         |                                                                     |
| 4E4360-1    | Water pump     | 8.5"x3.0"x5.1" | 6 lbs   | DO-160D              | Stainless steel            | 2.5 gpm @ 38.5 psig         | 28 VDC, 7 A                             | 3 selectable speeds                                                 |
| 4E4177-1    | Water pump     | 5.7"x2.3" dia. | 2.5 lbs | N/A                  | 300 series stainless steel | 27 gal./hour with open flow | 115 VAC, 3 phase, 400 Hz, 114 W nominal | Adjustable pressure; use this pump with tanks 4E4176-1 and 4E4176-2 |



4E4177-1



# Lavatory / Galley Water Heaters / Water System / Shower Heaters

Collins Aerospace lavatory water heaters provide numerous options. Nominally 2-3 pints with 115 VAC and 28 VDC models available. Many lavatory water heaters have electronic temperature selection that can be controlled by various methods.



## Lavatory / Galley Water Heaters / Water System / Shower Heaters

Note: All are 300 series stainless steel; the 4E4986-1 shower heater also has aluminum housing.

| Part Number  | Description                  | Envelope                        | Weight   | Qual Level            | Fitting Type                | Power Consumption | Supply Voltage           | Water Temp Setpoint   | Capacity   | Special Features                                                                                                                                                                  |
|--------------|------------------------------|---------------------------------|----------|-----------------------|-----------------------------|-------------------|--------------------------|-----------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4E4132-1     | Tank, unheated               | Cylindrical, 27" long, 12" dia. | 18.5 lbs | DO-160D               | Inlet & outlet: AS1656-1-12 | N/A               | N/A                      | N/A                   | 10 gal.    |                                                                                                                                                                                   |
| 4E4132-2     | Tank, heated                 | Cylindrical, 27" long, 12" dia. | 28.5 lbs | DO-160D               | Inlet & outlet: AS1656-1-12 | 15 kW             | 115 VAC, 3 phase, 400 Hz | 125°F                 | 10 gal.    | Overheating protection includes three step controller and sensor, ultrasonic and float water level sensors, 3 immersion heaters with thermal cutoffs and manual reset thermostat  |
| 4E4176-1     | Tank, heated                 | Cylindrical, 27" long, 12" dia. | 28.5 lbs | DO-160D               | Inlet & outlet: AS1656-1-12 | 15 kW             | 115 VAC, 3 phase, 400 Hz | 125°F                 | 10 gal.    | Overheating protection includes three step controller and sensor, ultrasonic and float water level sensors, 3 immersion heaters with thermal cutoffs and manual reset thermostat  |
| 4E4176-2     | Tank, heated                 | Cylindrical, 27" long, 12" dia. | 27.6 lbs | DO-160D               | Inlet & outlet: AS1656-1-12 | 7.5 kW            | 115 VAC, 3 phase, 400 Hz | 125°F                 | 10 gal.    | Overheating protection includes, three step controller and sensor, ultrasonic and float water level sensors, 3 immersion heaters with thermal cutoffs and manual reset thermostat |
| 4E3168-2     | Tank, heated with controller | 4" dia. x 6.25" vessel only     | 3.5 lbs  | DO-160C/ MIL-STD-810E | Inlet & outlet: MS33514G6   | 140 W             | 115 VAC, 400 Hz          | 85°F, 95°F or 107°F   | 1 quart    | Two components, heated tank and controller; overheating protection includes controller, manual resettable thermostat, pressure switch and thermal cutoff                          |
| 24E507040G06 | Lavatory water heater        | 4" dia. x 13"                   | 4 lbs    | DO-160C               | Inlet & outlet: MS33514G6   | 420 W             | 115 VAC, 400 Hz          | 105°F, 115°F or 125°F | 1.9 quarts | Overheating protection includes controller and manual reset thermostat                                                                                                            |
| 24E507040G05 | Lavatory water heater        | 4" dia. x 13"                   | 4 lbs    | DO-160C               | Inlet & outlet: MS33514G6   | 420 W             | 115 VAC, 400 Hz          | 105°F, 115°F or 125°F | 1.9 quarts | Overheating protection includes controller, pressure switch and manual reset thermostat                                                                                           |
| 8921460G5    | Lavatory water heater        | 4" dia. x 11.5"                 | 4 lbs    | DO-160C               | Inlet & outlet: MS33514G6   | 420 W             | 115 VAC, 400 Hz          | 105°F, 115°F or 125°F | 1.5 quarts | Overheating protection includes controller and manual reset thermostat                                                                                                            |
| 8921460G6    | Lavatory water heater        | 4" dia. x 11.5"                 | 3.7 lbs  | DO-160C               | Inlet & outlet: MS33514G6   | 420 W             | 115 VAC, 400 Hz          | 105°F, 115°F or 125°F | 1.5 quarts | Overheating protection includes controller, pressure switch and manual reset thermostat                                                                                           |

## Lavatory / Galley Water Heaters / Water System / Shower Heaters

Note: All are 300 series stainless steel; the 4E4986-1 shower heater also has aluminum housing.

| Part Number  | Description           | Envelope          | Weight  | Qual Level | Fitting Type              | Power Consumption | Supply Voltage     | Water Temp Setpoint   | Capacity   | Special Features                                                                                      |
|--------------|-----------------------|-------------------|---------|------------|---------------------------|-------------------|--------------------|-----------------------|------------|-------------------------------------------------------------------------------------------------------|
| 8921460G7    | Lavatory water heater | 4" dia. x 11.5"   | 3.7 lbs | DO-160C    | Inlet & outlet: MS33514G6 | 420 W             | 115 VAC, 400 Hz    | 105°F, 115°F or 125°F | 1.5 quarts | Overheating protection includes controller and manual reset thermostat                                |
| 24E507009G03 | Lavatory water heater | 4" dia. x 12"     | 3.8 lbs | DO-160C    | Custom                    | 420 W             | 115 VAC, 400 Hz    | 125°F                 | 1.6 quarts | Overheating protection includes water level sensing, controller and manual reset thermostat           |
| 4E3176-1     | Lavatory water heater | 4" dia. x 12"     | 3.7 lbs | DO-160C    | Inlet & outlet: MS33514G6 | 450 W             | 28 VDC             | 100°F, 115°F or 130°F | 1.6 quarts | Overheating protection includes controller and manual reset thermostat                                |
| 4E3176-2     | Lavatory water heater | 4" dia. x 12"     | 3.7 lbs | DO-160C    | Inlet & outlet: MS33514G6 | 300 W             | 28 VDC             | 100°F, 115°F or 130°F | 1.6 quarts | Overheating protection includes controller and manual reset thermostat                                |
| 4E4099-2     | Lavatory water heater | 4" dia. x 9.5"    | 3.8 lbs | DO-160D    | Inlet & outlet: AS33514G6 | 420 W             | 115 VAC 250-800 Hz | 115°F, 135°F or 155°F | 1.2 quarts | Overheating protection includes water level sensing, controller and thermal cutoff                    |
| 4E4099-3     | Lavatory water heater | 4" dia. x 13"     | 4.2 lbs | DO-160D    | Inlet & outlet: AS33514G6 | 420 W             | 115 VAC 250-800 Hz | 115°F, 135°F or 155°F | 1.9 quarts | Overheating protection includes water level sensing, controller and thermal cutoff                    |
| 4E4986-1     | Shower heater         | 16.5"x15.5"x 5.0" | 24 lbs  | N/A        | N/A                       | 10 kW             | 115 VAC            | 120°F max.            | No tank    | Internal temp control, water detection, fault monitoring, adjustable temperature, overheat protection |



# Heated Drain Masts

Collins Aerospace drain masts are aluminum or composite fairings with corrosion resistant, long-life stainless steel or copper drain tube(s). A coaxial tube heater prevents ice formation and assures continuous drain flow. Numerous drain masts offer dual-mode operation: full power in flight and low power on ground. The over temperature thermostat/sensors allow for ice-free operation and prevent overheating.



## Heated Drain Masts

| Part Number | Envelope         | Weight  | Qual Level | Material          | Inlet Port                                                                | Power             | Supply Voltage              | Temp Control                                                                                           | Special Features |
|-------------|------------------|---------|------------|-------------------|---------------------------------------------------------------------------|-------------------|-----------------------------|--------------------------------------------------------------------------------------------------------|------------------|
| 4E3160-1    | 8.1"x2.8"x6.5"   | 1.7 lbs | DO-160C    | Composite fairing | Double 3/4" tubes, 1.25" length                                           | 220W              | 115 VAC                     | Thermostat                                                                                             |                  |
| 4E3169-1    | 8.1"x2.8"x8.5"   | 1.9 lbs | N/A        | Composite fairing | Double 1/2" tubes, 3.25" length                                           | 220W              | 115 VAC                     | Thermostat                                                                                             |                  |
| 4E3169-2    | 8.1"x2.8"x7.2"   | 1.9 lbs | N/A        | Composite fairing | Double 1/2" tubes, 1.37", 2" length                                       | 220W              | 115 VAC                     | Thermostat                                                                                             |                  |
| 4E3169-3    | 8.1"x2.8"x7.4"   | 1.9 lbs | N/A        | Composite fairing | Double 1/2" tubes, AS1656-1-10 (1.29" length), AS1656-1-08 (2.17" length) | 220W              | 115 VAC                     | Thermostat                                                                                             |                  |
| 4E3169-4    | 8.1"x2.8"x7.7"   | 1.9 lbs | N/A        | Composite fairing | Double 1/2" tubes, AS1656-1-08 (1.5" length), AS1656-1-10 (2.45" length)  | 220W              | 115 VAC                     | Thermostat                                                                                             |                  |
| 4E4150-2    | 8.1"x2.8"x6.5"   | 2 lbs   | DO-160D    | Composite fairing | Double 3/4" tubes, 1.25" length                                           | 220W              | 115 VAC                     | Overtemperature thermostat, safety thermostat and TCO; requires external control based on sensor value |                  |
| 8921270G2   | 16.4"x2.7"x6.4"  | 2.4 lbs | N/A        | Aluminum fairing  | Single 1" tube, 2.5" length angled                                        | 285W Flight       | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-1    | 18.6"x3.3"x10.2" | 2.8 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length 55.3 angle                                    | 259-311W Flight   | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-2    | 18.6"x3.3"x10.3" | 2.8 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length 55.3 angle                                    | 259-311W Flight   | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-3    | 18.4"x2.8"x10.2" | 2.6 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.55" length 55.3 angle                                   | 259-311W Flight   | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-4    | 18.6"x3.3"x10.2" | 2.8 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length 55.3 angle                                    | 259-311W Flight   | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-5    | 20"x2.8"x17.1"   | 3.6 lbs | DO-160C    | Composite fairing | Single 1" tube, 4.19" length                                              | 286.6-336W Flight | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-6    | 20.2"x2.8"x15.6" | 3.8 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length curved                                        | 286.6-336W Flight | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-7    | 20.2"x2.7"x17.1" | 3.6 lbs | DO-160C    | Composite fairing | Single 1" tube, 4.19" length                                              | 286.6-336W Flight | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |
| 5E2675-8    | 18.4"x2.8"x10.2" | 2.3 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.55" length 55.3 angle                                   | 259-311W Flight   | 115 VAC Flight, 28 V Ground | Weight on wheels control                                                                               |                  |

## Heated Drain Masts

| Part Number | Envelope         | Weight  | Qual Level | Material          | Inlet Port                                                                                       | Power Consumption    | Supply Voltage                 | Temp Control                        | Special Features                                                                                                                                                                  |
|-------------|------------------|---------|------------|-------------------|--------------------------------------------------------------------------------------------------|----------------------|--------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5E2675-9    | 18.4"x2.8"x10.2" | 2.3 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.55" length<br>55.3 angle                                                       | 259-311W Flight      | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 5E2675-10   | 20.3"x2.8"x17.1" | 3.3 lbs | DO-160C    | Composite fairing | Single 1" tube, 4.19" length                                                                     | 286.6-336W<br>Flight | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 5E2675-11   | 20.3"x2.7"x17.1" | 3.3 lbs | DO-160C    | Composite fairing | Single 1" tube, 4.19" length                                                                     | 286.6-336W<br>Flight | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 5E2675-12   | 20.2"x2.8"x15.6" | 3.4 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length<br>curved                                                            | 286.6-336W<br>Flight | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 5E2675-13   | 18.6"x3.3"x10.2" | 2.8 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length<br>55.3 angle                                                        | 259-311W Flight      | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 5E2675-14   | 18.6"x3.3"x10.2" | 2.8 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.3" length<br>55.3 angle                                                        | 286.6-336W<br>Flight | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 5E2675-15   | 18.4"x2.8"x10.2" | 2.3 lbs | DO-160C    | Composite fairing | Single 1" tube, 2.55" length<br>55.3 angle                                                       | 259-311W Flight      | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |
| 4E4878-5    | 7.0"x2.5"x5.5"   | 1.6 lbs | DO-160E    | Composite fairing | Double 1/2" and 5/8" tubes<br>with AS33514-08 and<br>AS33514-10 fittings, 2.19",<br>2.24" length | 2 Circuits @<br>220W | 115 VAC, 250-<br>800 Hz        | 2 TCOs                              | Redundant<br>heating elements<br>and control<br>circuitry, thermal<br>cutoff for each as<br>over temperature<br>control; fault<br>reporting;<br>requires controller<br>4E4951-121 |
| 4E3264-3    | 8.1"x2.8"x7.6"   | 2 lbs   | DO-160D    | Composite fairing | Double 1/2" tubes with<br>AS33514-08 fittings, 2.36"<br>length                                   | 220W                 | 115 VAC, 250-<br>800 Hz        | Integral electronic<br>temp control |                                                                                                                                                                                   |
| 4E3264-4    | 8.1"x2.8"x6.3"   | 1.8 lbs | DO-160C    | Composite fairing | Double 1/2" tubes with<br>AS33514-08 fittings, 1.13"<br>length                                   | 220W                 | 115 VAC                        | External temp<br>control            | Integral temp<br>sensor                                                                                                                                                           |
| 24E506700G1 | 16.4"x2.7"x6.4"  | 2.5 lbs | N/A        | Aluminum fairing  | Double 1" tubes, 2.57"<br>angled, 2.94" length                                                   | 350W                 | 115 VAC Flight,<br>28 V Ground | Weight on wheels<br>control         |                                                                                                                                                                                   |





# Electronic Controllers

Collins Aerospace offers a centralized controller that provides zone control of heated lines, tanks and valves along with control of water heaters, drain masts, level sensing and indication and all power switching integral to the potable water system. The controller has an integrated display panel, integrated CB's, fuses, control switches with fault sensing and annunciation. The controller uses ARINC 429 bus communication.



## Electronic Controllers

| Part Number   | Description                | Input Power                              | I/O                                                                                                                                                                                                                                                                                                                              | Qual Level | Operation                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4E4186-1      | Level sensors controller   | 28 VDC                                   | 5 filtered + 5 unfiltered open/grounded outputs, max. current sinking 20mA each                                                                                                                                                                                                                                                  | DO-160D    | Monitors conductive point level sensors and provides both filtered and instantaneous open/grounded outputs to drive LEDs on internal/external indicator panels or interfacing with cabin management systems                                                                                                                                                                                                               |
| 4E4265-1      | Power switching controller | 28 VDC                                   | 1 4PDT outputs, 5 3PDT outputs, 2 SPST output; open/ground activation                                                                                                                                                                                                                                                            | DO-160D    | Receives open/grounded inputs which control power; power switches to switch power to loads                                                                                                                                                                                                                                                                                                                                |
| 5E2621 series | Control unit/panel, PWS    | 28 VDC,<br>115 VAC<br>400 Hz,<br>3 phase | Integrated front panel control switches and water level indicators. Temperature control of up to 56 PWS heaters based on readings from up to 13 sensors, temperature control of 2 drain masts and one air compressor. Monitoring of up to 10 level sensors and one pressure transducer. Bidirectional ARINC 429 digital databus. | DO-160C    | Full PWS controller with integral water level/control display interface. Provides level sensing on water tanks and control of PWS water heaters, drain masts and various other PWS heaters. Controls air compress to pressurize PWS. Fault monitoring/reporting capability through ARINC 429 databus. Automatic aircraft configuration detection.                                                                         |
| 5E2651 series | PWS controller             | 28 VDC,<br>115 VAC<br>400 Hz             | Power control of 36 28 VDC outputs for pumps, valves, etc. Temperature control of 2 115 VAC drain masts. Monitoring of up to two pressure transducers, 48 open/ground inputs, 10 level sensors and 58 ESTAT heater inputs. Bidirectional ARINC 429 digital databus for cabin management control and fault/status reporting.      | DO-160D    | PWS controller that interfaces with cabin management system through bi-directional ARINC 429 databus for full system control and fault/status reporting. Interfaces with discrete control panels for alternate control and status indication. Provides level sensing on water tanks, control of motorized valves, drain masts and water pumps. Monitors various other PWS heaters with integrated electronic thermostats. |

# Air Heaters

Supplemental Air Heaters warm cabin air in “cold spots” in and around exit doors, galleys, lower lobe crew rest areas and cargo holds. Air heaters are controlled via internal thermostats, electronic solid state control or can be provided with sensors for customer designed controls. Additionally, a closed loop heating system for compartments is available. This consists of a self-regulating, microprocessor based controller and air temperature sensor used with standard supplemental air heaters.



## Air Temperature Sensors

| Part Number | Description    | Envelope                    | Weight   | Qual Level              | Material                   | Resistance  | Features                      |
|-------------|----------------|-----------------------------|----------|-------------------------|----------------------------|-------------|-------------------------------|
| 24B508385P1 | Probe assembly | 1/8" NPT, 3.5" long         | 0.05 lbs | DO-160C                 | 300 series stainless steel | 30 Kohm NTC | Two lead wires                |
| 3E2593-1    | Sensor         | 0.750-16 UNJF-3A, 5.3" long | 0.17 lbs | Boeing PN S210W110-2022 | 300 series stainless steel | 30 Kohm NTC | Connector mates with BACC63BP |

## Air Heaters — Closed Loop Kits

| Part Number | Description                | Envelope | Weight  | Qual Level | Material | Power and Voltage              | Features                                                                          |
|-------------|----------------------------|----------|---------|------------|----------|--------------------------------|-----------------------------------------------------------------------------------|
| 4E3441-1    | Kit, Air heating with CLTC | N/A      | 4 lbs   | N/A        | N/A      | 28 VDC/3 phase 115 VAC, 1.5 kW | Contains: 1x CLTC 4E3437-2, 2x temp probe 3E2593-1, 1x air heater 24E508322G02    |
| 4E3441-3    | Kit, Air heating with CLTC | N/A      | 4 lbs   | N/A        | N/A      | 28 VDC/3 phase 115 VAC, 1.5 kW | Contains: 1x CLTC 4E3437-7, 2x temp probe 24B508385P1, 1x air heater 24E508322G02 |
| 4E3441-4    | Kit, Air heating with CLTC | N/A      | 3.6 lbs | N/A        | N/A      | 28 VDC/3 phase 115 VAC, 750 W  | Contains: 1x CLTC 4E3437-7, 2x temp probe 24B508385P1, 1x air heater 24E508321G02 |
| 4E3441-5    | Kit, Air heating with CLTC | N/A      | 6.1 lbs | N/A        | N/A      | 28 VDC/3 phase 115 VAC, 1.5 kW | Contains: 1x CLTC 4E3437-7, 2x temp probe 24B508385P1, 1x air heater 24E508321G02 |
| 4E3441-6    | Kit, Air heating with CLTC | N/A      | 7.3 lbs | N/A        | N/A      | 28 VDC/3 phase 115 VAC, 5.5 kW | Contains: 1x CLTC 4E3437-7, 2x temp probe 24B508385P1, 2x air heater 4E3239-1     |
| 4E3441-7    | Kit, Air heating with CLTC | N/A      | 3.6 lbs | N/A        | N/A      | 28 VDC/3 phase 115 VAC, 750 W  | Contains: 1x CLTC 4E3437-6, 2x temp probe 24B508385P1, 1x air heater 24E508321G02 |

## Air Heaters — Closed Loop Controllers

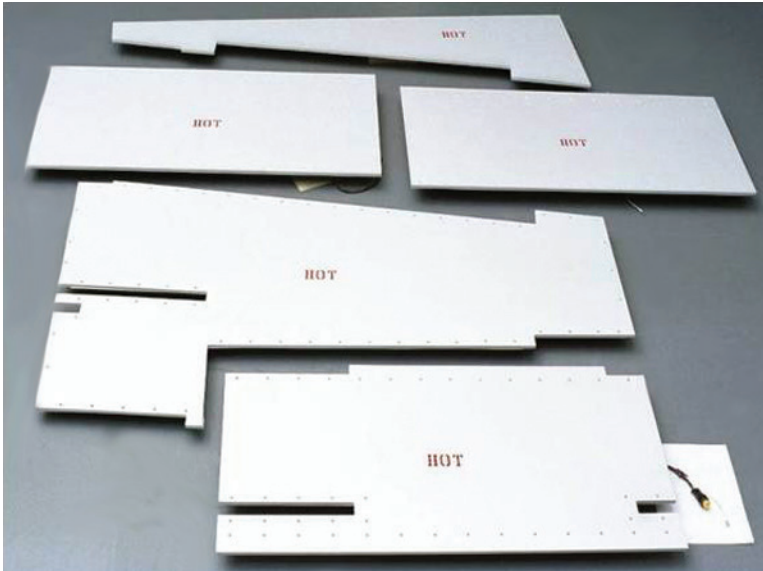
| Part Number | Description                                                 | Envelope   | Weight | Qual Level           | Material | Power and Voltage | Features                                         |
|-------------|-------------------------------------------------------------|------------|--------|----------------------|----------|-------------------|--------------------------------------------------|
| 4E3437-6    | Closed loop temperature controller with 15 second backlight | 2.7"x4"x4" | 1 lb   | DO-160D/MIL-STD 810E | Aluminum | 28 VDC, 4W        | Unit selection, fault reporting, backlit display |
| 4E3437-7    | Closed loop temperature controller                          | 2.7"x4"x4" | 1 lb   | DO-160D/MIL-STD 810E | Aluminum | 28 VDC, 4W        | Unit selection, fault reporting, backlit display |

## Air Heaters

| Part Number  | Description | Envelope                                       | Weight  | Qual Level | Material | Power and Voltage                  | Features                                                                              |
|--------------|-------------|------------------------------------------------|---------|------------|----------|------------------------------------|---------------------------------------------------------------------------------------|
| 24E508321G02 | Air heater  | 10.1"x3"x4.5" (tube shape, controller affixed) | 2.5 lbs | DO-160C    | Aluminum | 750 W, 3 phase 115/200 VAC 400 Hz  | Thermal fuse, overheating protection, controllable by potentiometer or UTC controller |
| 24E508322G02 | Air heater  | 12.4"x3"x4.5" (tube shape, controller affixed) | 2.9 lbs | DO-160C    | Aluminum | 1500 W, 3 phase 115/200 VAC 400 Hz | Thermal fuse, overheating protection, controllable by potentiometer or UTC controller |
| 4E3239-1     | Air heater  | 14.9"x3"x4.5" (tube shape, controller affixed) | 3.1 lbs | DO-160C    | Aluminum | 2250 W, 3 phase 115/200 VAC 400 Hz | Thermal fuse, overheating protection, controllable by potentiometer or UTC controller |
| 8921560G1    | Air heater  | 24"x4"x3.5" (tube)                             | 4 lbs   | DO-160C    | Aluminum | 2300 W, 150/200 VAC 400 Hz         | Automatic overheating protection                                                      |
| 8921560G2    | Air heater  | 24"x4"x3.5" (tube)                             | 4 lbs   | DO-160C    | Aluminum | 1150/2300 W, 115/200 VAC 400 Hz    | Automatic overheating protection, dual power selection                                |
| 8921560G3    | Air heater  | 24"x4"x3.5" (tube)                             | 4 lbs   | DO-160C    | Aluminum | 1500/3000 W, 115/200 VAC 400 Hz    | Automatic overheating protection, dual power selection                                |
| 8921560G4    | Air heater  | 24"x4"x3.5" (tube)                             | 4.5 lbs | DO-160C    | Aluminum | 1500/3000 W, 115/200 VAC 400 Hz    | Automatic overheating protection, dual power selection                                |
| 8921560G5    | Air heater  | 24"x4"x3.5" (tube)                             | 4.5 lbs | DO-160C    | Aluminum | 1500/3000 W, 115/200 VAC 400 Hz    | Manual overtemperature reset, dual power selection                                    |

# Heated Floor Panels

Collins Aerospace heated floor panels are installed on a variety of aircraft from jumbo to business jets. Heated floor panels consist of a titanium or composite skin and provide heat in areas of an aircraft susceptible to cold to assure passenger and crew comfort. The heated floor panels feature low profile with hermetic sealing to prevent moisture ingress, redundant over-temperature protection, tailored power density and rapid heat transfer.







This document does not contain any export  
controlled technical data.

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