

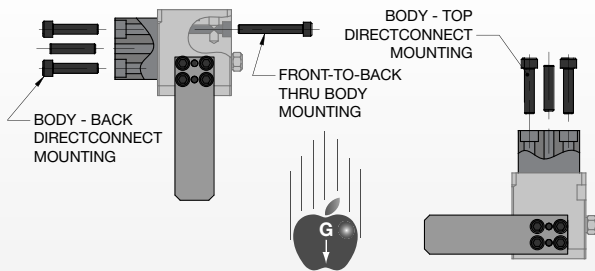
# Parallel Grippers - DPDS DIRECTCONNECT™ Modular Series

**NO  
ADAPTER  
PLATES!**

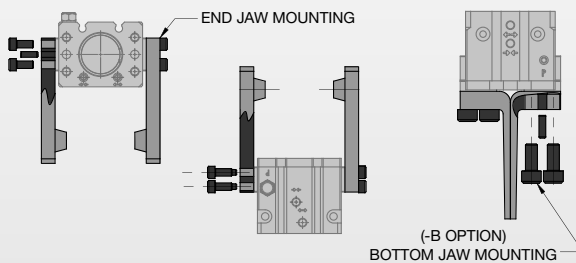
- **Multiple mounting locations:** DIRECTCONNECT™ tapped and dowel mounting on top and back of body.
- **Thru-body mounting:** Front-to-back thru-body mounting.
- **Multiple air port positions:** Tapped air ports on front, top, and back sides are standard.
- **Front purge/scavenge port:** Negative pressure used as a scavenge port for clean room applications. Positive pressure used as a purge port to repel contaminants in harsh environments. Port can also be used for lubrication.
- **Manifold air porting:** Top and back air ports can be manifold o-ring sealed.
- **Sensing:** Full range adjustable magneto resistive sensors.
- **Different strokes:** All gripper sizes are available in 3 different strokes.
- **Multiple jaw styles:** All sizes available with end mounts jaws as standard or bottom mount jaws as an option.
- **Long finger applications:** Rigid design and full body support of jaws allows for longer finger lengths.

## Mounting Information:

Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Fingers attach with screws and locate on jaws by keying and/or dowel pins.  
Fingers can be mounted in any orientation with respect to the jaw.

## Technical Specifications:

**Pneumatic Specifications**  
Pressure Operating Range  
Cylinder Type  
Dynamic Seals  
Valve Required to Operate

<b>Imperial</b>	<b>Metric</b>
20-100 psi	1.5-7 bar
<b>Double Acting</b>	
<b>Internally Lubricated Buna-N</b>	
<b>4-way, 2-position</b>	

**Air Quality Requirements**  
Air Filtration  
Air Lubrication  
Air Humidity

**40 Micron or Better**  
**Not Necessary\***  
**Low Moisture Content (dry)**

**Temperature Operating Range**

Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C

**Maintenance Specifications†**

Expected Life	
Normal Application w/ Preventative Maintenance	<b>5 million cycles</b>
Field Repairable	<b>10+ million cycles*</b>
Seal Repair Kits Available	<b>Yes</b>
	<b>Yes</b>

**Application Restrictions**

Applications where mechanism lubricant could cause contamination (use DPDL gripper with -E sealed jaw option)

\*Addition of lubrication will greatly increase service life  
†See Maintenance Section

## Product Features

**Hard Coat Anodize**  
The body and bottom plate have hard-coat anodize 60RC with Teflon® impregnation

**High Temperature**  
Optional Viton® seals are available for high temperature applications

**Multiple Air Port Locations**  
3 standard air port locations (front, back, & top)

**Sensor Mounting Slots**  
Standard mounting slots for magneto resistive (sensors sold separately)

**One Piece Body**  
One piece lightweight aircraft quality aluminum body

**Manifold Air Ports**  
Back & top air ports can be O-ring manifold sealed to eliminate air lines

**Dowel Holes**  
Slip fit dowel pin holes in body and jaws

**DIRECTCONNECT™ Mounting Patterns**  
DIRECTCONNECT™ tapped & dowel mounting surfaces on top and back of body

**Extremely Rugged Design**  
Jaws are supported throughout the length of the body

**Thru-Body Mounting**  
Front-to-back thru C'bores for socket head cap screw mounting

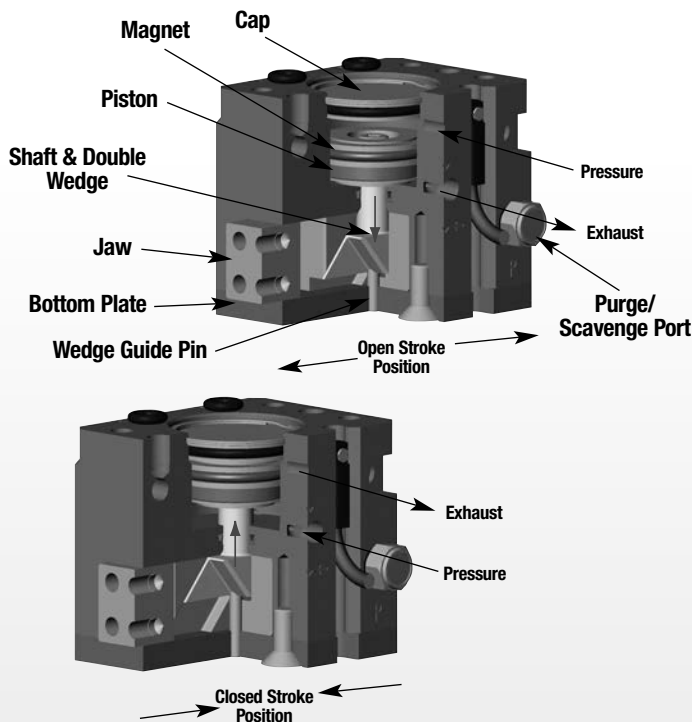
**Bottom Jaw Mounting (-B) Option**  
For alternate finger mounting (standard side mount jaws shown)

**Corrosion Resistant Hardware (-S) or Clean Room (-CR) Options**  
Both options have stainless and brass hardware. Clean room option uses clean room grade greases

**Purge/Scavenge Port**  
Used with a vacuum for clean room environments or positive pressure with harsh environments

**Jaw Components**  
Hardened and precision ground steel for minimum jaw play with hard plating for wear resistance and long life

## Operating Principle



- A double acting piston is connected by a shaft to a double-sided wedge.
- The wedge slides in a slot located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- The large surface area of the wedge minimizes friction wear.
- This gripper is suitable for internal or external gripping and can be mounted in any orientation.

**Designed and manufactured in the USA**

## Style -DPDS Parallel Gripper

### Size -047M

Style:	DPDS-047M	
Stroke:	0.13 in.	3.2 mm
Grip Force:	14 lbs.	62 N
Weight:	0.086 lbs.	0.04 Kg



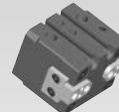
-B Bottom Jaw Mount Shown

See Page **1.136**

## Style -DPDS Parallel Gripper

### Size -056M

Style:	DPDS-056M	
Stroke:	0.19 in.	4.8 mm
Grip Force:	22 lbs.	98 N
Weight:	0.155 lbs.	0.07 Kg



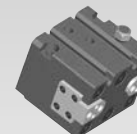
-B Bottom Jaw Mount Shown

See Page **1.138**

## Style -DPDS Parallel Gripper

### Size -088M

Style:	DPDS-088M	
Stroke:	0.25 in.	6.4 mm
Grip Force:	50 lbs.	222 N
Weight:	0.51 lbs.	0.23 Kg



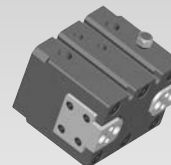
-B Bottom Jaw Mount Shown

See Page **1.140**

## Style -DPDS Parallel Gripper

### Size -125M

Style:	DPDS-125M	
Stroke:	0.38 in.	9.5 mm
Grip Force:	100 lbs.	445 N
Weight:	1.03 lbs.	0.46 Kg



-B Bottom Jaw Mount Shown

See Page **1.142**

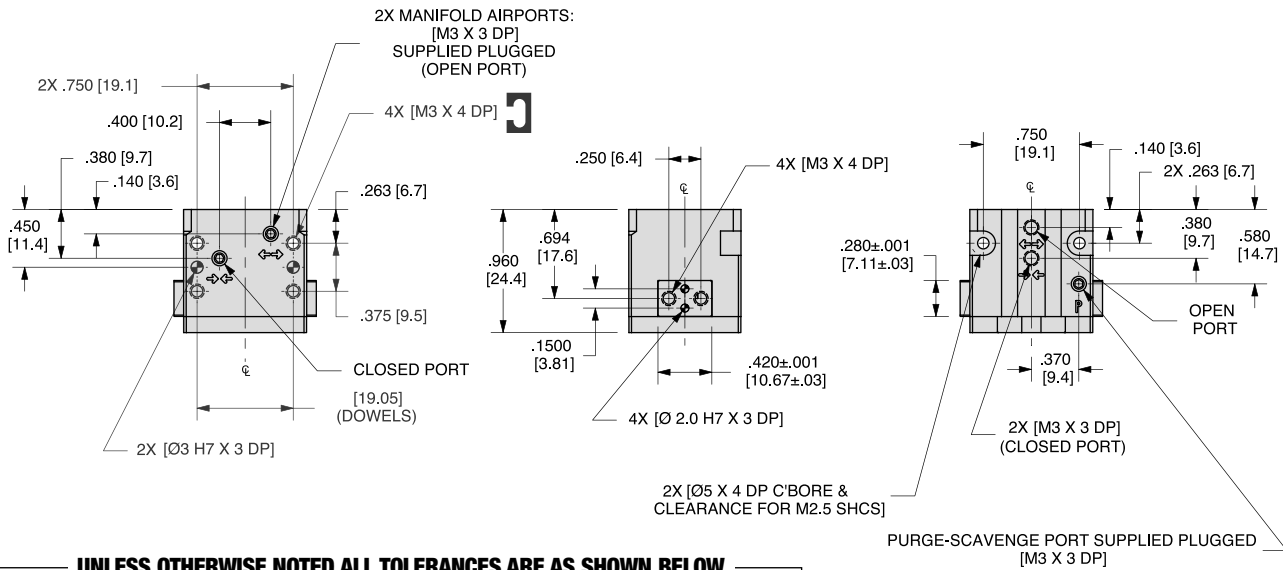
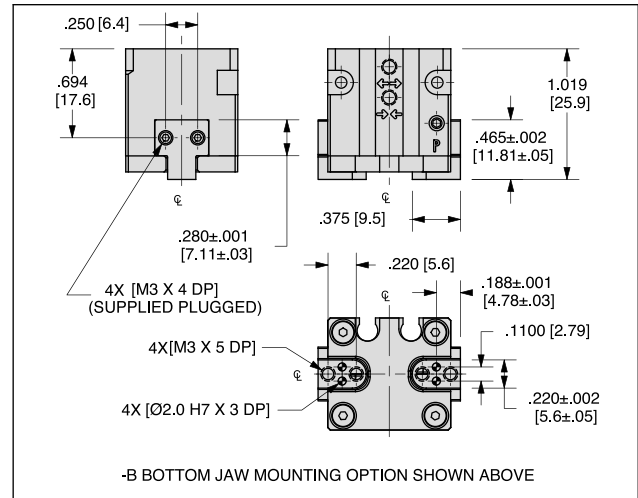
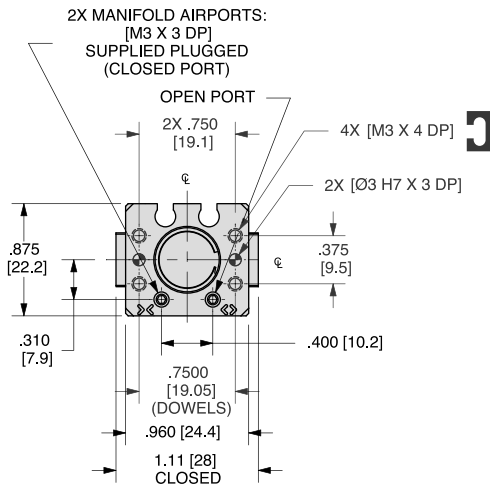




# PARALLEL GRIPPER DPDS-047M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.136



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				<b>Imperial in.</b>	<b>Metric [mm]</b>
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **STROKE**      **HARDWARE**

**DPDS-047M** -  - **B** -  - **V**

**JAW MOUNTING**      **VITON® SEALS**

<b>STROKE</b>	<b>013</b>	.13" [3.2mm]
	<b>009</b>	.09" [2.4mm]
	<b>006</b>	.06" [1.6mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-185</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-185V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>

\*Sensor and cable sold separately

### SAMPLE ORDER: DPDS-047M-006-B-CR-V

Ex: DPDS-047M Gripper, Metric, 1.6mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

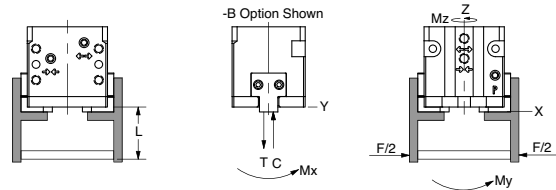
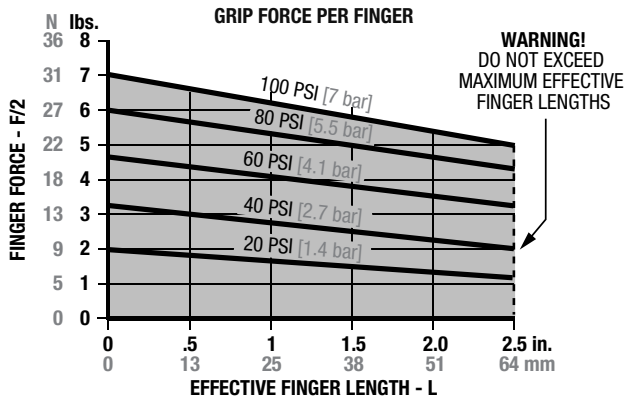
Please see back cover for DE-STA-CO Global Locations. [www.destaco.com](http://www.destaco.com)

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

DIRECTCONNECT™



## Loading Information



### Loading Capacity†

	Static	Dynamic
<b>DPDS-047M</b>		
Maximum Tensile <b>T</b>	30 lbs. [134 N]	6 lbs. [27 N]
Maximum Compressive <b>C</b>	50 lbs. [223 N]	10 lbs. [45 N]
Maximum Moment <b>M<sub>x</sub></b>	20 in.-lbs. [2 Nm]	5 in.-lbs. [0.6 Nm]
Maximum Moment <b>M<sub>y</sub></b>	20 in.-lbs. [2 Nm]	5 in.-lbs. [0.6 Nm]
Maximum Moment <b>M<sub>z</sub></b>	20 in.-lbs. [2 Nm]	5 in.-lbs. [0.6 Nm]

### DPDS-047M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	24 lbs. [107 N]	5 lbs. [22 N]
Maximum Compressive <b>C</b>	40 lbs. [178 N]	8 lbs. [36 N]
Maximum Moment <b>M<sub>x</sub></b>	16 in.-lbs. [2 Nm]	4 in.-lbs. [0.5 Nm]
Maximum Moment <b>M<sub>y</sub></b>	16 in.-lbs. [2 Nm]	4 in.-lbs. [0.5 Nm]
Maximum Moment <b>M<sub>z</sub></b>	16 in.-lbs. [2 Nm]	4 in.-lbs. [0.5 Nm]

†Capacities are per set of jaws and are not simultaneous

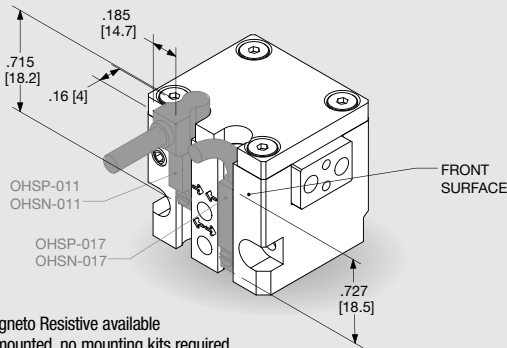
### Specifications DPDS-047M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	14 lbs. — 62 N
Maximum Stroke	0.13 in. — 3.2 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	0.469 in. 11.9 mm
Displacement	0.013 in <sup>3</sup> 0.2 cm <sup>3</sup>

### Specifications (cont.) DPDS-047M

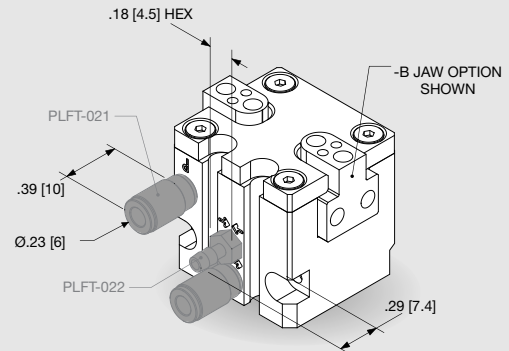
Weight	0.086 lbs.	0.04 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.13 sec.	0.13 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



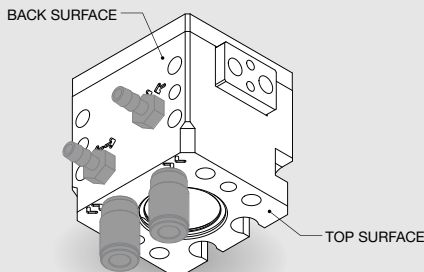
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



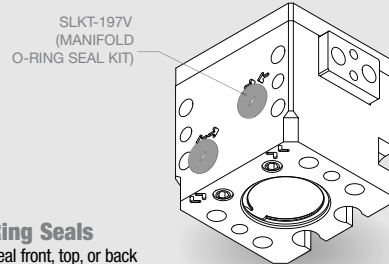
### Plumbing Fittings

- M3 fitting for 2mm I.D. tube (PLFT-022 straight barbed style)
- M3 fitting for 3mm O.D. tube (PLFT-021 straight tube push-in style)
- M3 fittings can be used in any airport including the front purge/scavenge port



### Multiple Air Port Locations

- 3 standard M3 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



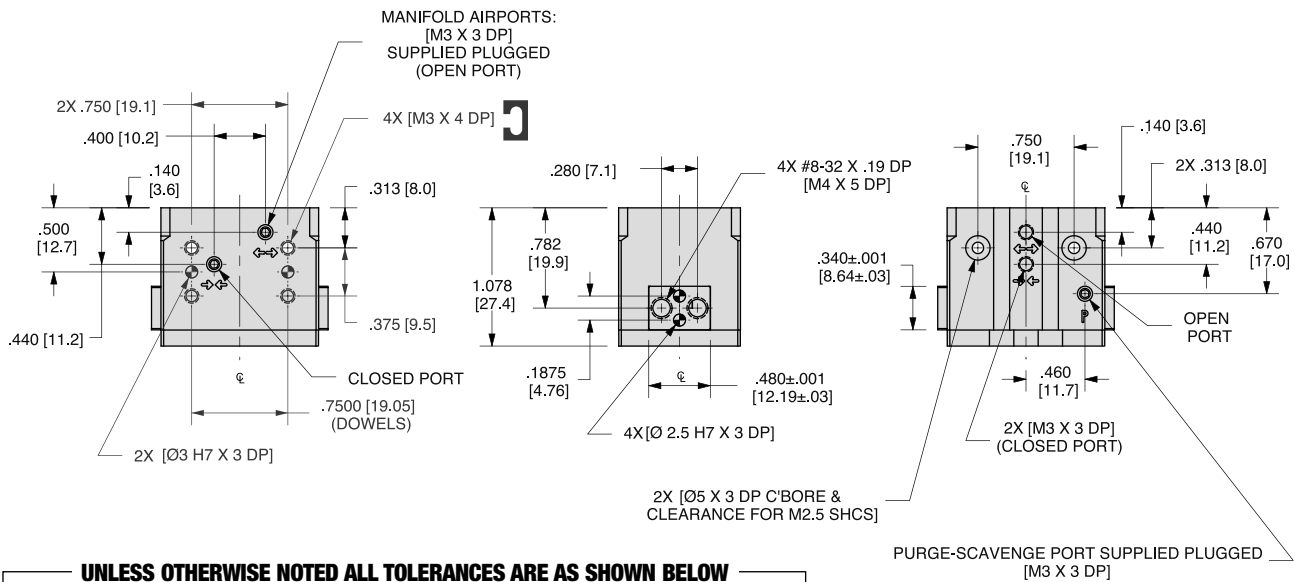
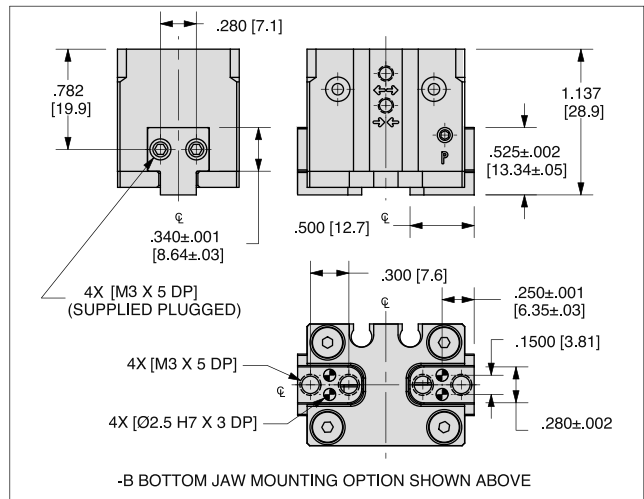
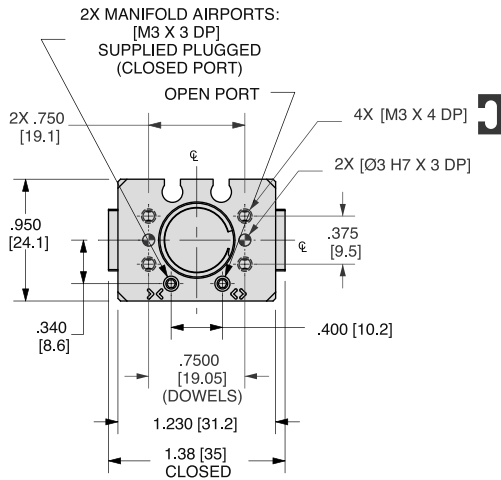
### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing$ .215 [5.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

# PARALLEL GRIPPER DPDS-056M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.138



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **STROKE**      **HARDWARE**

**DPDS-056M** -  - **B** -  - **V**

**JAW MOUNTING**      **VITON® SEALS**

<b>STROKE</b>	<b>019</b>	.19" [4.8mm]
	<b>013</b>	.13" [3.2mm]
	<b>009</b>	.09" [2.4mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	<b>SLKT-186</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-186V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-197V</b>	<b>1</b>
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	<b>PLFT-021</b>	<b>1 or 2</b>
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	<b>PLFT-022</b>	<b>1 or 2</b>

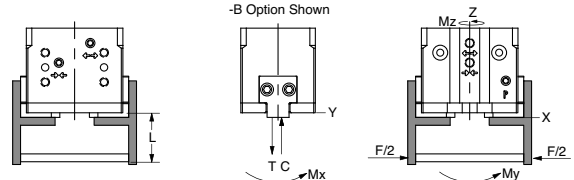
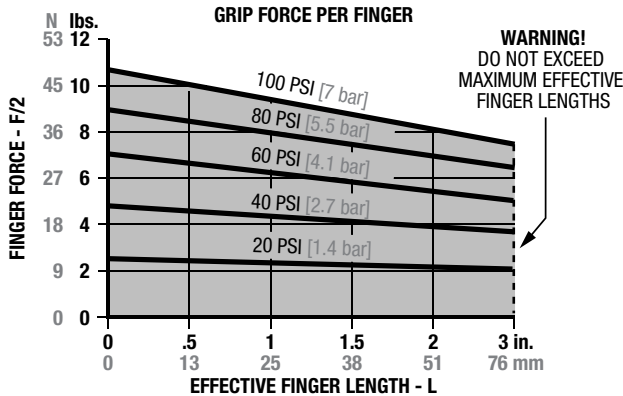
\*Sensor and cable sold separately

### SAMPLE ORDER: DPDS-056M-009-B-CR-V

Ex: DPDS-056M Gripper, Metric, 2.4mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™





### Loading Capacity†

	Static	Dynamic
<b>DPDS-056M</b>		
Maximum Tensile <b>T</b>	60 lbs. [267 N]	10 lbs. [45 N]
Maximum Compressive <b>C</b>	90 lbs. [401 N]	15 lbs. [67 N]
Maximum Moment <b>M<sub>x</sub></b>	40 in.-lbs. [5 Nm]	7 in.-lbs. [0.8 Nm]
Maximum Moment <b>M<sub>y</sub></b>	40 in.-lbs. [5 Nm]	7 in.-lbs. [0.8 Nm]
Maximum Moment <b>M<sub>z</sub></b>	40 in.-lbs. [5 Nm]	7 in.-lbs. [0.8 Nm]

### DPDS-056M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	48 lbs. [214 N]	8 lbs. [36 N]
Maximum Compressive <b>C</b>	72 lbs. [320 N]	12 lbs. [53 N]
Maximum Moment <b>M<sub>x</sub></b>	32 in.-lbs. [4 Nm]	6 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>y</sub></b>	32 in.-lbs. [4 Nm]	6 in.-lbs. [1 Nm]
Maximum Moment <b>M<sub>z</sub></b>	32 in.-lbs. [4 Nm]	6 in.-lbs. [1 Nm]

†Capacities are per set of jaws and are not simultaneous

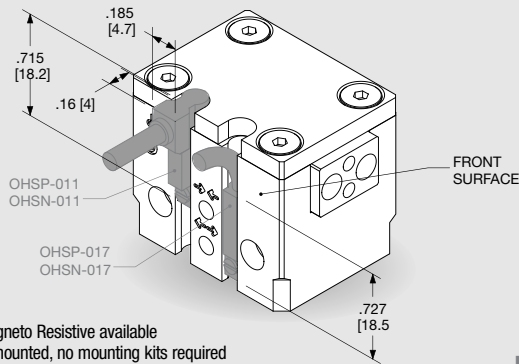
### Specifications DPDS-056M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	22 lbs. — 98 N
Maximum Stroke	0.19 in. — 4.8 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	0.563 in. 14.3 mm
Displacement	0.028 in. <sup>3</sup> 0.5 cm <sup>3</sup>

### Specifications (cont.) DPDS-056M

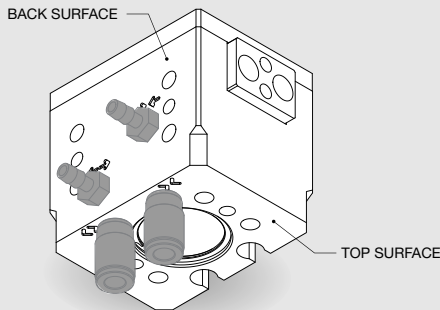
Weight	0.155 lbs.	0.07 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.16 sec.	0.16 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



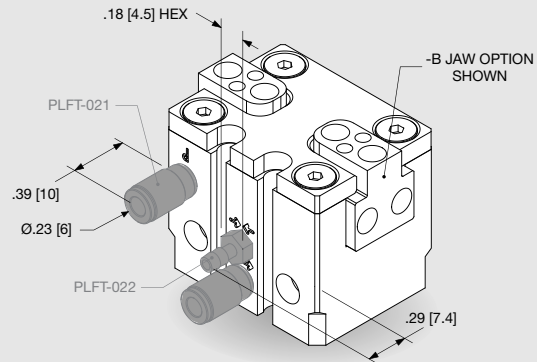
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 3 standard M3 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Plumbing Fittings

- M3 fitting for 2mm I.D. tube (PLFT-022 straight barbed style)
- M3 fitting for 3mm O.D. tube (PLFT-021 straight tube push-in style)
- M3 fittings can be used in any airport including the front purge/scavenge port

SLKT-197V  
(MANIFOLD  
O-RING SEAL KIT)

### Manifold O-Ring Seals

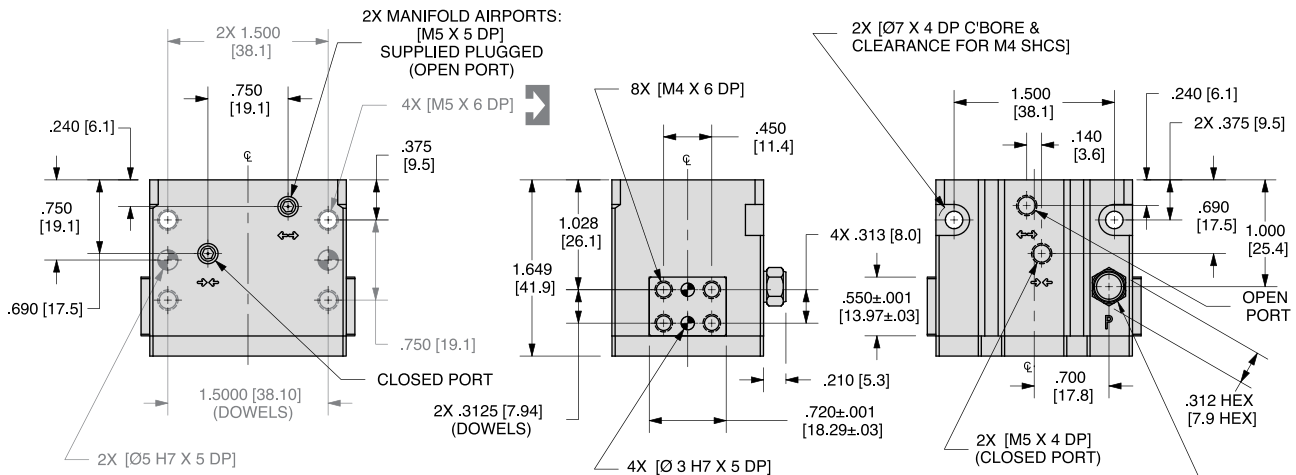
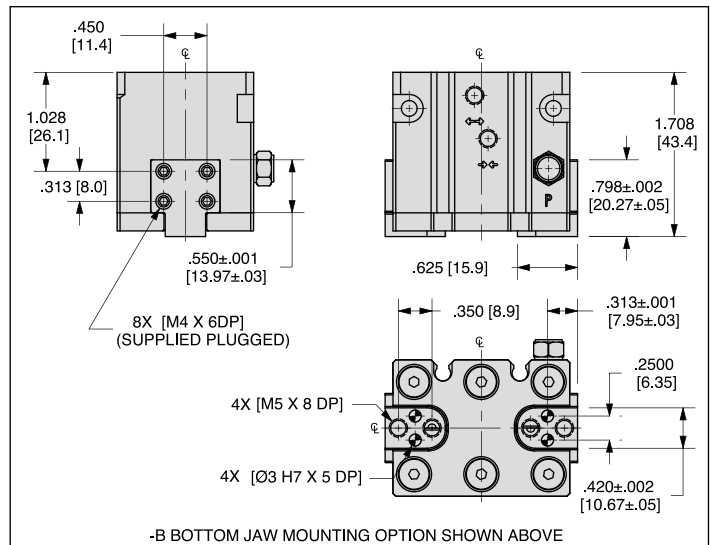
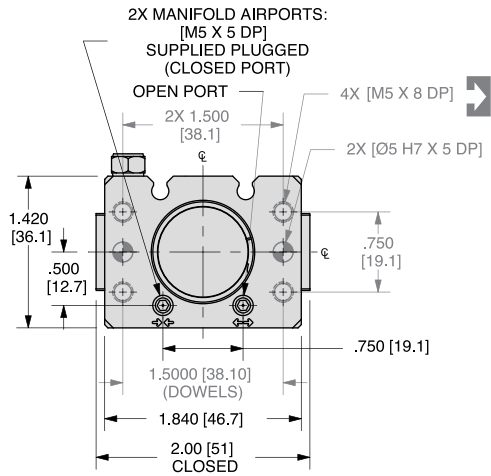
- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.215$  [5.5] X  $.060 \pm .002$  [1.52 ± .05] deep
- Kit is supplied with all seals, plugs, & wrenches needed



# PARALLEL GRIPPER DPDS-088M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.140



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				Imperial in.	Metric [mm]
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[.0] = ±.25 [.0] = ±.13 [0.00] = ±.013

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)

**BASIC MODEL**      **STROKE**      **HARDWARE**

**DPDS-088M** -  - **B** -  - **V**

**JAW MOUNTING**      **VITON® SEALS**

<b>STROKE</b>	<b>025</b>	.25" [6.4mm]
	<b>019</b>	.19" [4.8mm]
	<b>013</b>	.13" [3.2mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	<b>1 or 2</b>
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	<b>1 or 2</b>
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	<b>1 or 2</b>
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	<b>1 or 2</b>
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	<b>1 or 2</b>

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-187</b>	<b>1</b>
Viton® Seal Repair Kit	<b>SLKT-187V</b>	<b>1</b>
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	<b>1</b>
Adjustable Flow Control M5 Elbow - 6mm OD Push-in (Metric)	<b>VLVF-008</b>	<b>1 or 2</b>
Fail Safe Valve M5	<b>OFSV-004</b>	<b>1</b>

\*Sensor and cable sold separately

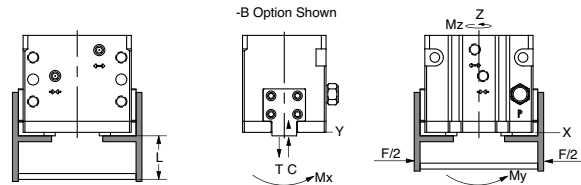
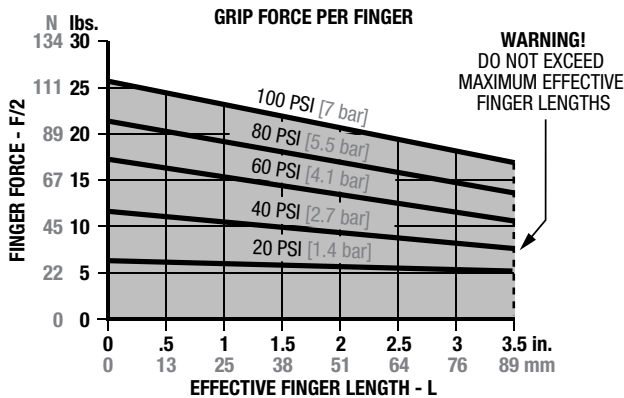
### SAMPLE ORDER: DPDS-088M-019-B-CR-V

Ex: DPDS-088M Gripper, Metric, 4.8mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

Please see back cover for DE-STA-CO Global Locations. [www.destaco.com](http://www.destaco.com)

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

DIRECTCONNECT™



### Loading Capacity†

	Static	Dynamic
<b>DPDS-088M</b>		
Maximum Tensile <b>T</b>	138 lbs. [614 N]	25 lbs. [111 N]
Maximum Compressive <b>C</b>	275 lbs. [1224 N]	25 lbs. [111 N]
Maximum Moment <b>M<sub>x</sub></b>	120 in.-lbs. [14 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	120 in.-lbs. [14 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	120 in.-lbs. [14 Nm]	20 in.-lbs. [2 Nm]

### DPDS-088M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	110 lbs. [490 N]	20 lbs. [89 N]
Maximum Compressive <b>C</b>	220 lbs. [979 N]	20 lbs. [89 N]
Maximum Moment <b>M<sub>x</sub></b>	96 in.-lbs. [11 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>y</sub></b>	96 in.-lbs. [11 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment <b>M<sub>z</sub></b>	96 in.-lbs. [11 Nm]	16 in.-lbs. [2 Nm]

†Capacities are per set of jaws and are not simultaneous

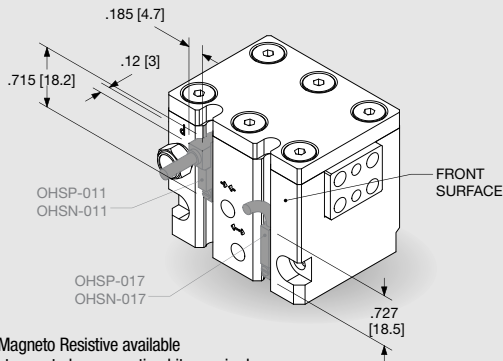
### Specifications DPDS-088M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	50 lbs. — 222 N
Maximum Stroke	0.25 in. — 6.4 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	0.875 in. 22.2 mm
Displacement	0.090 in <sup>3</sup> 1.5 cm <sup>3</sup>

### Specifications (cont.) DPDS-088M

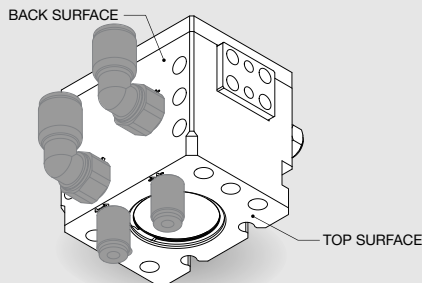
Weight	0.51 lbs.	0.23 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.20 sec.	0.20 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

## Accessory Mounting Technical Data



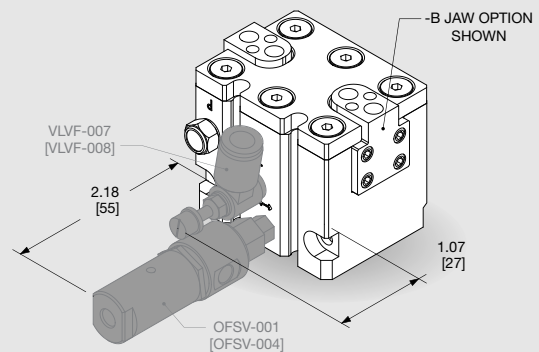
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 3 standard M5 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time:
  - Available for 6mm O.D. tubing
- Failsafe valve for applications:
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - M5 air port

### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing$ .290 [07.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

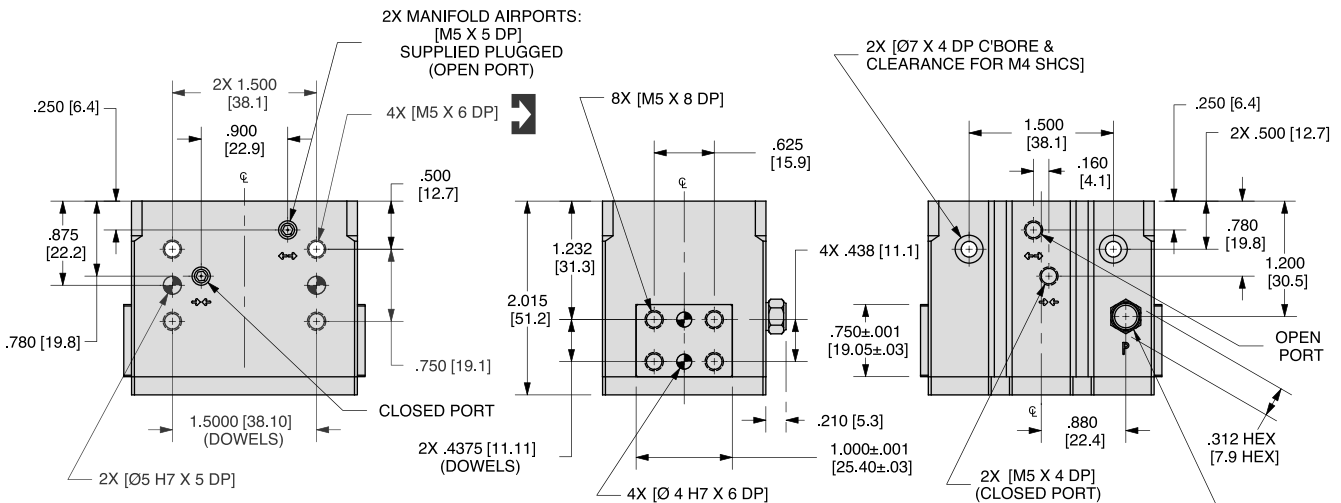
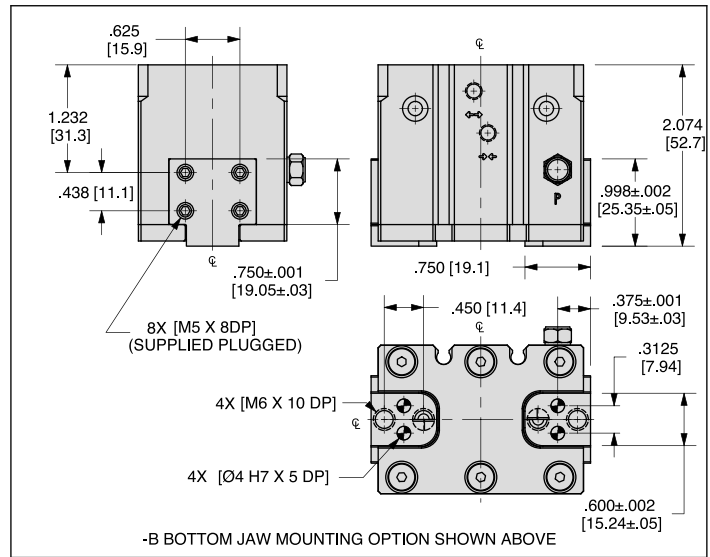
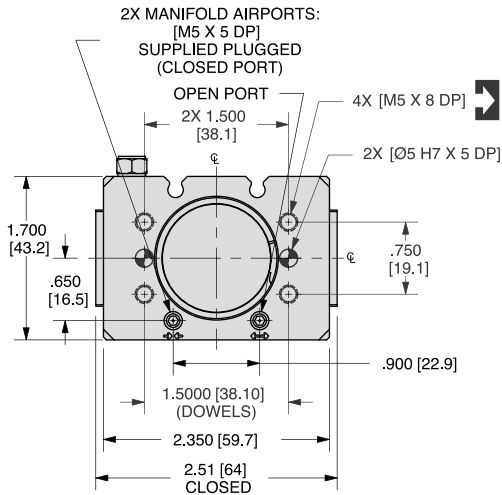




# PARALLEL GRIPPER DPDS-125M DIRECTCONNECT™ MODULAR SERIES

DPDS SERIES

1.142

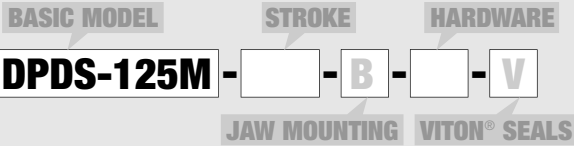


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				imperial in.	metric [mm]
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]	Metric Threads Course Pitch	0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005	[0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE: DIRECTCONNECT™ DIMENSIONS ARE SHOWN IN BLUE

## How to Order: (Order Accessories separately from Basic Model)



<b>STROKE</b>	<b>038</b>	.38" [9.5mm]
	<b>025</b>	.25" [6.4mm]
	<b>019</b>	.19" [4.8mm]
<b>JAW MOUNTING</b>	<b>B</b>	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
<b>HARDWARE</b>	<b>S</b>	Corrosion resistant
	<b>CR</b>	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
<b>VITON®</b>	<b>V</b>	High Temperature Viton® Seals

### SENSOR ACCESSORIES

	ORDER #	QTY/UNIT
PNP Magneto Resistive Sensor with Quick Disconnect*	<b>OHSP-017</b>	1 or 2
NPN Magneto Resistive Sensor with Quick Disconnect*	<b>OHSN-017</b>	1 or 2
PNP Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSP-011</b>	1 or 2
NPN Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect*	<b>OHSN-011</b>	1 or 2
Quick Disconnect Cable (2 meters long)*	<b>CABL-010</b>	1 or 2
Quick Disconnect Cable (5 meters long)*	<b>CABL-013</b>	1 or 2

### PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	<b>SLKT-188</b>	1
Viton® Seal Repair Kit	<b>SLKT-188V</b>	1
Manifold Seal Kit (Viton®)	<b>SLKT-199V</b>	1
Adjustable Flow Control M5 Elbow - 6mm OD Push-in (Metric)	<b>VLVF-008</b>	1 or 2
Fail Safe Valve M5	<b>OFSV-004</b>	1

\*Sensor and cable sold separately

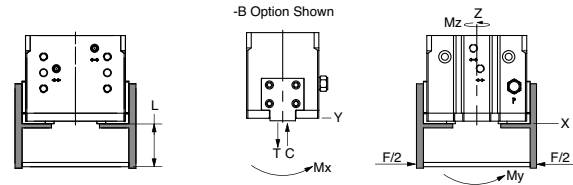
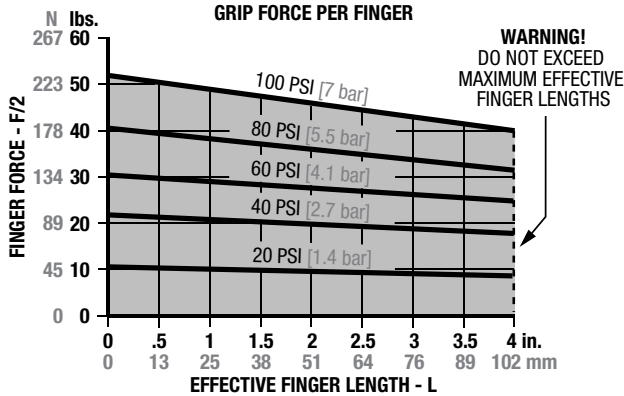
### SAMPLE ORDER: DPDS-125M-025-B-CR-V

Ex. DPDS-125M Gripper, Metric, 6.4mm Stroke, Bottom Jaw Mounting, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

Please see back cover for DE-STA-CO Global Locations. [www.destaco.com](http://www.destaco.com)

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

DIRECTCONNECT™



### Loading Capacity†

	Static	Dynamic
<b>DPDS-125M</b>		
Maximum Tensile <b>T</b>	500 lbs. [2225 N]	65 lbs. [289 N]
Maximum Compressive <b>C</b>	950 lbs. [4228 N]	65 lbs. [289 N]
Maximum Moment <b>M<sub>x</sub></b>	425 in.-lbs. [48 Nm]	70 in.-lbs. [8 Nm]
Maximum Moment <b>M<sub>y</sub></b>	425 in.-lbs. [48 Nm]	70 in.-lbs. [8 Nm]
Maximum Moment <b>M<sub>z</sub></b>	425 in.-lbs. [48 Nm]	70 in.-lbs. [8 Nm]

### DPDS-125M-B (Bottom Jaw Mounting Option)

Maximum Tensile <b>T</b>	400 lbs. [1780 N]	52 lbs. [231 N]
Maximum Compressive <b>C</b>	760 lbs. [3382 N]	52 lbs. [231 N]
Maximum Moment <b>M<sub>x</sub></b>	340 in.-lbs. [38 Nm]	56 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>y</sub></b>	340 in.-lbs. [38 Nm]	56 in.-lbs. [6 Nm]
Maximum Moment <b>M<sub>z</sub></b>	340 in.-lbs. [38 Nm]	56 in.-lbs. [6 Nm]

†Capacities are per set of jaws and are not simultaneous

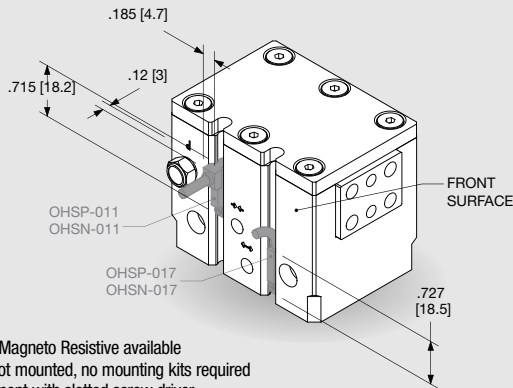
### Specifications DPDS-125M

Total Rated Grip Force <b>F</b> @ 100 psi, 7 bar	100 lbs. — 445 N
Maximum Stroke	0.38 in. — 9.5 mm
Maximum Operating Pressure Range	20-100 psi 1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg 200 mm Hg
Maximum Pressure for Purge Port	20 psi 1.4 bar
Cylinder Bore $\varnothing$	1.250 in. 31.8 mm
Displacement	0.274 in <sup>3</sup> 4.5 cm <sup>3</sup>

### Specifications (cont.) DPDS-125M

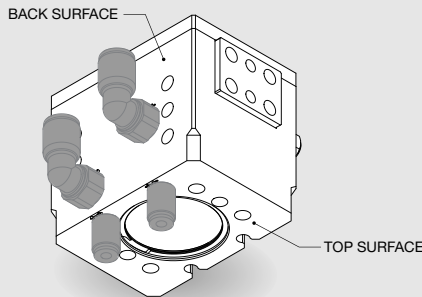
Weight	1.03 lbs. 0.46 Kg
Temperature Range: Standard Seals	-30°~180° F -35°~80° C
Viton® Seals	-20°~300° F -30°~150° C
Actuation	0.30 sec. 0.30 sec.
Accuracy	±0.003 in. ±0.08 mm
Repeatability	±0.001 in. ±0.03 mm
Valve Required to Actuate	4-way, 2-position

## Accessory Mounting Technical Data



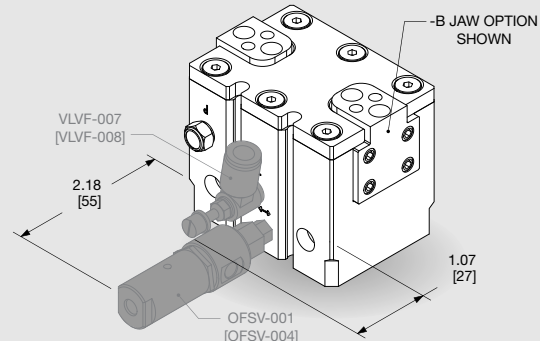
### Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Low profile underflush sensor version or 90° wire exit sensor version
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



### Multiple Air Port Locations

- 3 standard M5 air port locations (front, top, and back surface)
- Top and Back air ports are plugged as standard



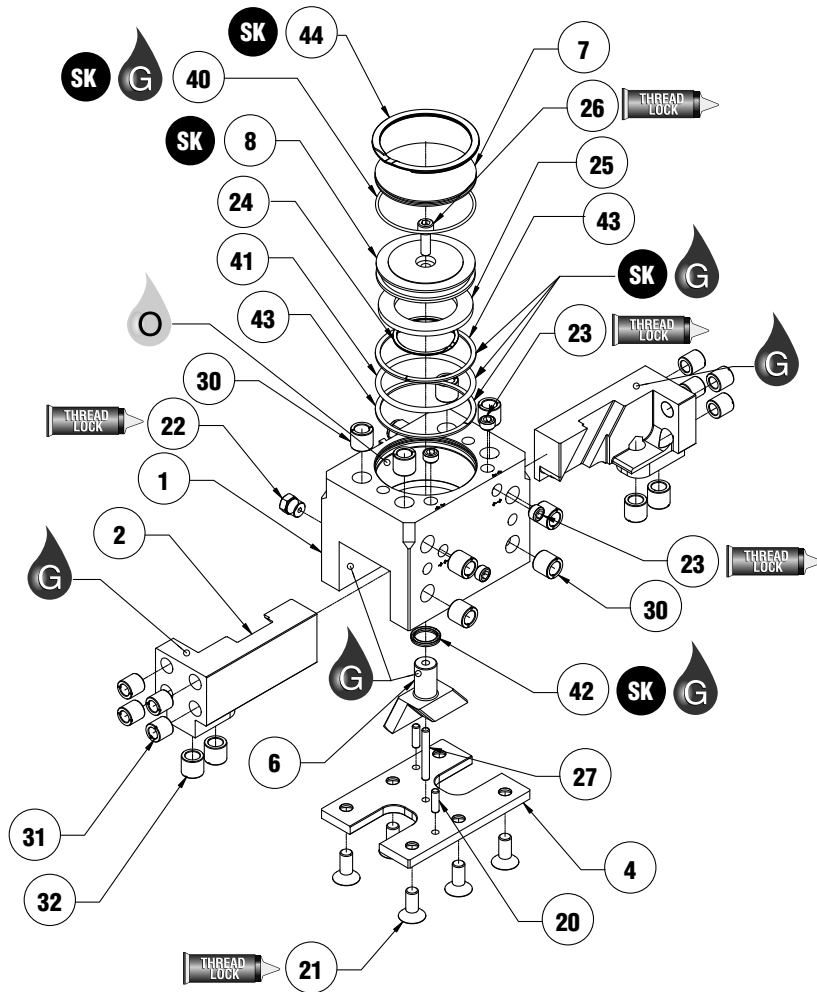
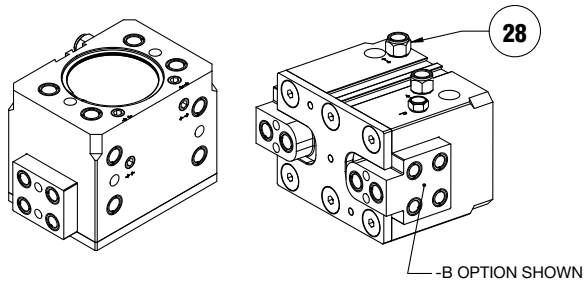
### Plumbing Fittings

- Adjustable flow controls:
  - Have thumb screw adjust with locking nut for adjusting actuation time
  - Available for 6mm O.D. tubing
- Failsafe valve for applications:
  - Where it is critical that the part being gripped not be dropped if air pressure is lost
  - Can mount directly to gripper or in-line with plumbing to gripper
  - M5 air port
- Consult factory for additional plumbing fittings

### Manifold O-Ring Seals

- Can be used to seal front, top, or back air ports and front purge/scavenge port
- Seals in Manifold kit are Viton®
- O-Ring C'bores in customer's mounting plate must be:  $\varnothing.290$  [07.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

# DPDS SERIES EXPLODED VIEW



Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06	1	Shaft Wedge
07	1	Cap
08	1	Piston
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
28*	2	Plumbing Fitting - Adapter - 1/8NPT male to 1/8BSPP female
30*	8	Threaded Inserts (Body)
31*	8	Threaded Inserts (Jaw - End Mount)
32*	4	Threaded Inserts (Jaw - Bottom Mount "B" option only)
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
43*	2	Piston Teflon Ring
44	1	Cap Ret. Ring

**NOTES:\***

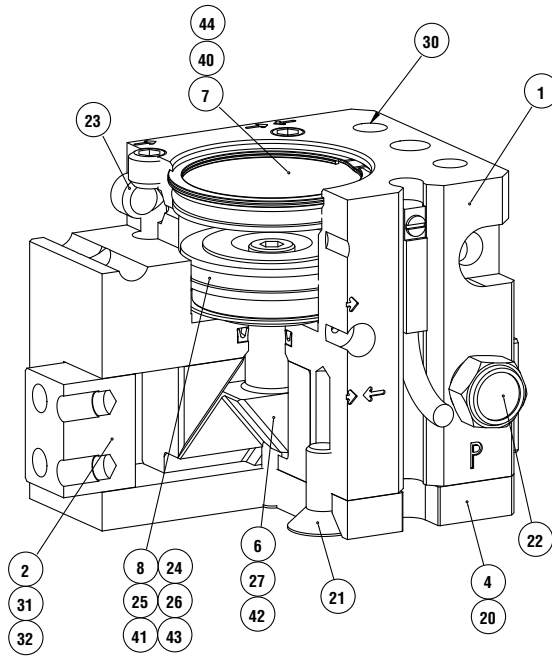
- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Item #30 is for size -175 and -250 only.
- 3) Item #31 and #32 are for size -250 only.
- 4) Item #22 Breather vent plug is a set screw plug for sizes -047 & -056.
- 5) Item #43 is for size -175 and -250 only.
- 6) Item #28 is for metric size -175M and -250M only.

**SK Seal Repair Kit Order #'s**  
**See Product Data Sheets**

**Assembly Procedure:**

- 1) Install #23 airport plugs with thread-locker.
- 2) Press pins #20 & #27 Into Plate #4.
- 3) Install threaded inserts #30, #31, & #32.
- 4) Install #22 vent or plug with thread-locker.
- 5) Mount magnet #25 to piston #8 with retainer Ring #24.
- 6) Install #28 metric plumbing fitting adapters.
- 7) Lubricate body #1 (jaw cavity & bores).
- 8) Lubricate & install all seals into body, piston, & cap.
- 9) Sub-assemble the #2 jaws on either side of the #6 shaft wedge with lubrication.
- 10) Insert the jaws and shaft wedge sub-assembly into body.
- 11) Insert piston #8 into the body bore and fasten it to the shaft wedge with Mounting screw # 26 using thread locker.
- 12) Install cap #7 into body with retaining ring #44.
- 13) Insert #4 bottom plate with pressed-in pins onto the body and fasten with #21 screws with thread-locker.

Seal Kit Items	Thread Locker	Krytox™ Lubricant	Lightweight Machine Oil	Teflon™ Based Grease	Super Bonder	Third Angle Projection



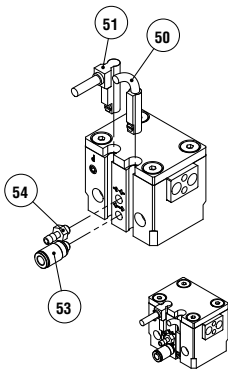
Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06	1	Shaft Wedge
07	1	Cap
08	1	Piston
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
28*	2	Plumbing Fitting - Adapter - 1/8NPT male to 1/8BSPP female
30*	8	Threaded Inserts (Body)
31*	8	Threaded Inserts (Jaw - End Mount)
32*	4	Threaded Inserts (Jaw - Bottom Mount "B" option only)
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
43*	2	Piston Teflon Ring
44	1	Cap Retainer Ring

**NOTES:\***

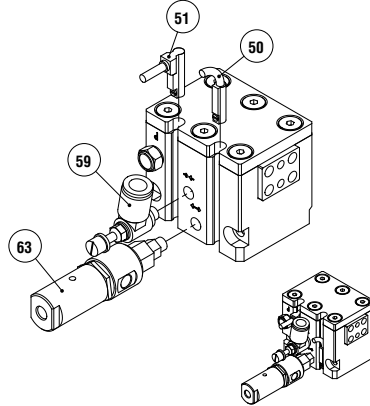
- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Item #30 is for size -175 and -250 only.
- 3) Item #31 and #32 are for size -250 only.
- 4) Item #22 breather vent plug is a set screw plug for sizes -047 & -056.
- 5) Item #43 is for size -175 and -250 only.
- 6) Item #28 is for metric size -175M and -250M only.

## Accessory Installation & Adjustment Instructions

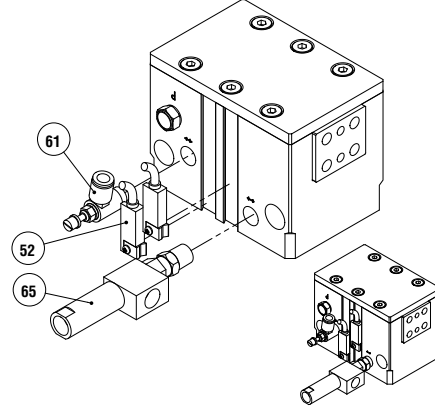
DPDS-047 & DPDS-056



DPDS-088 & DPDS-125



DPDS-175 & DPDS-250



Item	Qty	Name
50	1 or 2	Magneto Resistive Sensor (short barrel) w/Qk. Disconnect
51	1 or 2	Magneto Resistive Sensor (90° barrel) w/Qk. Disconnect
52	1 or 2	Magneto Resistive Sensor (12mm Dovetail) w/Qk. Disconnect
53	1,2 or 3	Plumbing Fitting - M3 male to 3mm OD Push-in Style
54	1,2 or 3	Plumbing Fitting - M3 male to 2mm ID Barb Style
59	1 or 2	Adjustable Flow Control (Metric) M5 elbow - 6mm OD Push-in Style
61	1 or 2	Adjustable Flow Control (Metric) G1/8 elbow - 6mm OD Push-in Style
63	1	Fail Safe Valve (Metric) M5
65	1	Fail Safe Valve (Metric) G1/8 (1/8 BSPP)

**NOTE:** Other Plumbing Fittings are available for each size - Consult Factory

**Magneto-Resistive Sensors:**

- 1) Insert sensors #50 or #51 from either end of the profile slots and set the sensor with the integrated screw.
- 2) Insert sensor #52 into the dovetail slot at any point and set the sensor with the integrated screw & locking shoe.

**Plumbing Fittings:**

- 1) M3 plumbing fittings #53 & #54 can be used in any airport or purge/scavenge port.
- 2) Flow controls can be inserted and used in any open or closed airport to help control the stroke actuation.
- 3) Fail-safe valve can be used in either the open or closed airport to help limit the possibility of dropping the part if air pressure is lost.