

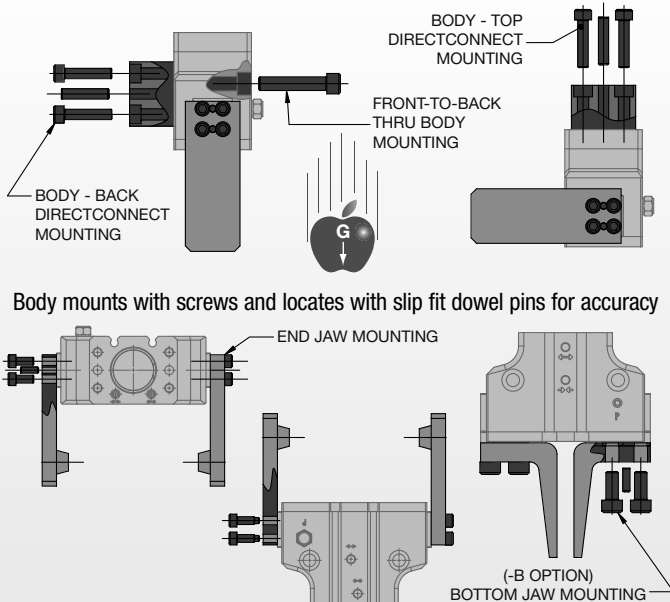
Parallel Grippers - DPDL DIRECTCONNECT™ Modular Series

**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.
- **Manifold air porting:** Top and back air ports can be manifold o-ring sealed.
- **Front purge/scavenge port:** Negative pressure used as a scavenge port used for cleanroom applications. Positive pressure used as a purge port to repel contaminants in harsh environment. Port can also be used for lubrication.
- **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.
- **True sealed jaw option:** Rugged integral rubber boot seals the unit against harsh environments. Designed to be used in machine coolant and metal chip environment applications.
- **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

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

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
Field Repairable
Seal Repair Kits Available

5 million cycles
10+ million cycles*
Yes
Yes

-E Option Seals Jaw Rubber Boot Specifications

Boot Material
Temperature Rating (boot only)
Compatible Chemicals:

60 Durometer Buna-N (Nitrile)
-20°~250° F -30°~120° C
Water, Coolant, Petroleum Oils, Silicone Lubricants, Dilute Acids & Alkalis, Hydraulic Fluid, Transmission Fluid

Non-Compatible Chemicals:

Ozone, Ketones, Strong Acids, Brake Fluid

Example Applications:

Grinding Dust, Machine Chip & Coolant, Painting, Paper Dust, Washdown Applications

Application Restrictions

Applications where mechanism lubricant could cause contamination (use -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

Extremely Rugged Design

Jaws are supported throughout the length of the body

DIRECTCONNECT™ Mounting Patterns

DIRECTCONNECT™ tapped & dowel mounting surfaces on top and back of 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)

Sealed Jaws (-E) Option

Buna-N bellows seal jaws against damaging hazardous environments (machining chips & coolant, grinding dust, paper mill environments, etc.)

Purge/Scavenge Port

Used with a vacuum for clean room environments or positive pressure with harsh environments

Corrosion Resistant Hardware (-S) or Clean Room (-CR) Options

Both options have stainless and brass hardware. Clean room option uses clean room grade greases

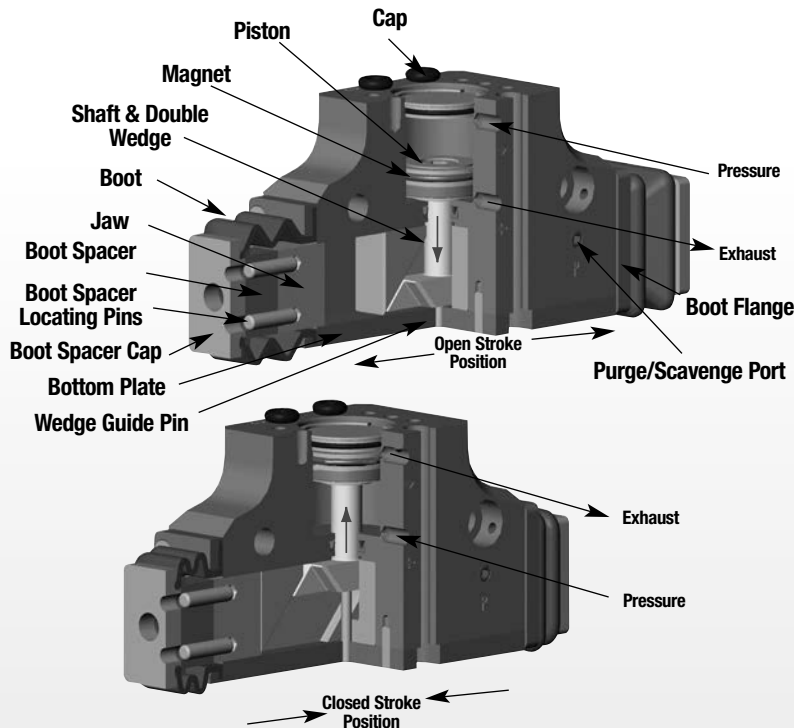
Dowel Holes

Slip fit dowel pin holes in body and jaws

Jaw Components

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

Operating Principle



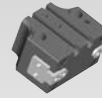
- A double acting piston is connected by a shaft to a double-sided wedge.
- The wedge slides in a slot located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- The large surface area of the wedge minimizes friction wear.
- This gripper is suitable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

Designed and manufactured in the USA

Style -DPDL Parallel Gripper

Size -047M

Style:	DPDL-047M	
Stroke:	0.38 in.	9.5 mm
Grip Force:	14 lbs.	62 N
Weight:	0.186 lbs.	0.08 Kg



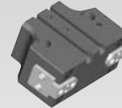
-B Bottom Jaw Mount Shown

See Page **1.148**

Style -DPDL Parallel Gripper

Size -056M

Style:	DPDL-056M	
Stroke:	0.50 in.	12.7 mm
Grip Force:	22 lbs.	98 N
Weight:	0.315 lbs.	0.14 Kg



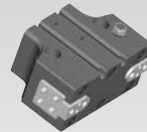
-B Bottom Jaw Mount Shown

See Page **1.150**

Style -DPDL Parallel Gripper

Size -088M

Style:	DPDL-088M	
Stroke:	0.75 in.	19.1 mm
Grip Force:	50 lbs.	222 N
Weight:	0.95 lbs.	0.43 Kg



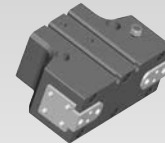
-B Bottom Jaw Mount Shown

See Page **1.152**

Style -DPDL Parallel Gripper

Size -125M

Style:	DPDL-125M	
Stroke:	1.00 in.	25.4 mm
Grip Force:	100 lbs.	445 N
Weight:	1.99 lbs.	0.90 Kg



-B Bottom Jaw Mount Shown

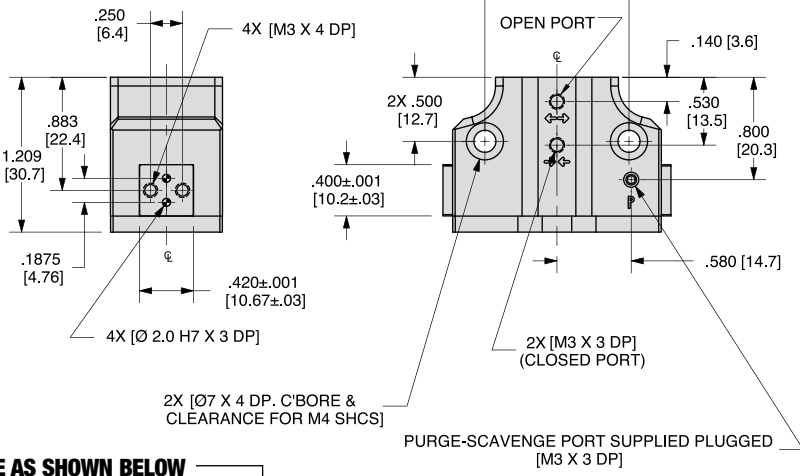
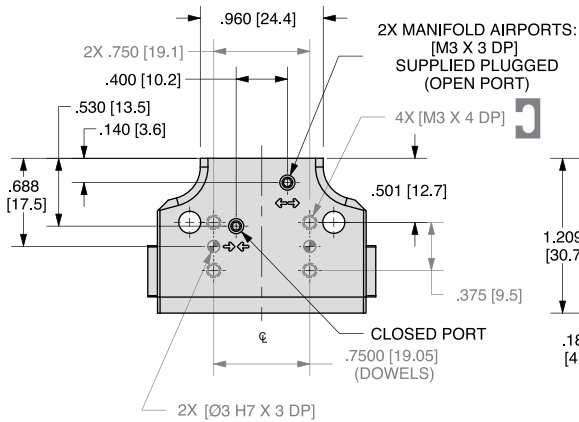
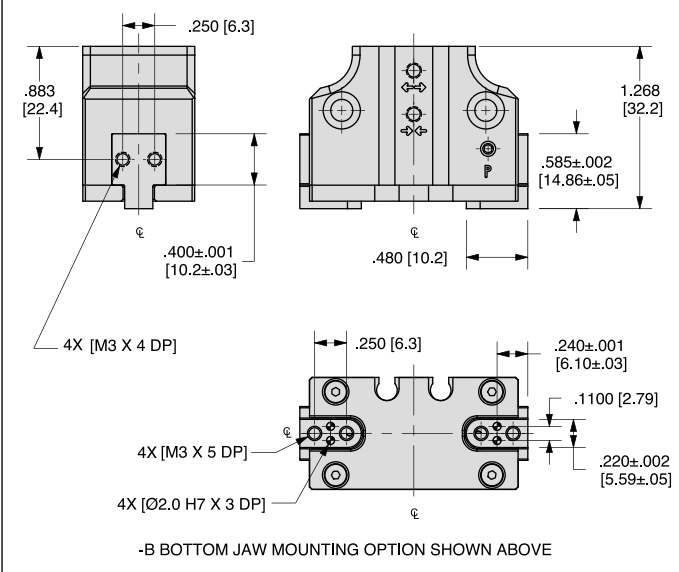
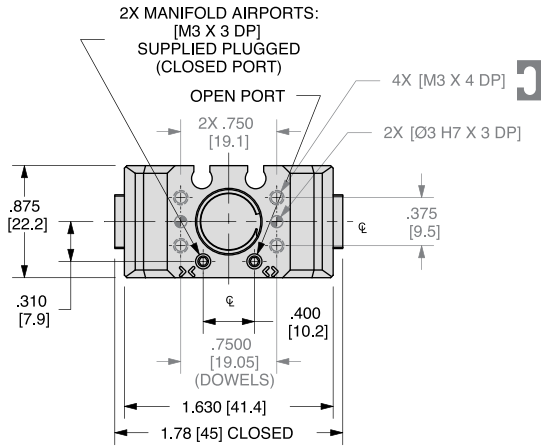
See Page **1.154**



PARALLEL GRIPPER DPDL-047M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.148



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	JAW SEAL*	HARDWARE
DPDL-047M	-	- B -	- E -
		- V	
JAW MOUNTING		VITON® SEALS	
STROKE	038 .38" [9.5mm] 025 .25" [6.4mm] 019 .19" [4.8mm]	JAW MOUNTING	B Bottom jaw mounting Leave blank for end jaw mounting (standard)
JAW BOOT SEAL**	E Buna-N rubber bellows	HARDWARE	S Corrosion resistant CR Corrosion resistant assembled with clean room grade grease Leave blank for alloy hardware (standard)
VITON®†	V High Temperature Viton® Seals		

SENSOR ACCESSORIES

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

PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	SLKT-185	1
Viton® Seal Repair Kit	SLKT-185V	1
Manifold Seal Kit (Viton®)	SLKT-197V	1
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	SLKT-191	1 or 2
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	PLFT-021	1 or 2
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	PLFT-022	1 or 2

* Sensor and cable sold separately

** -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected.

See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

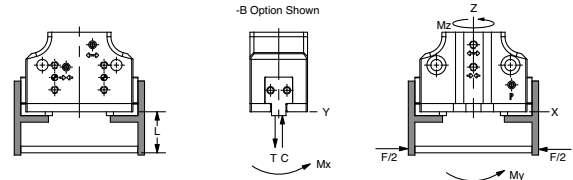
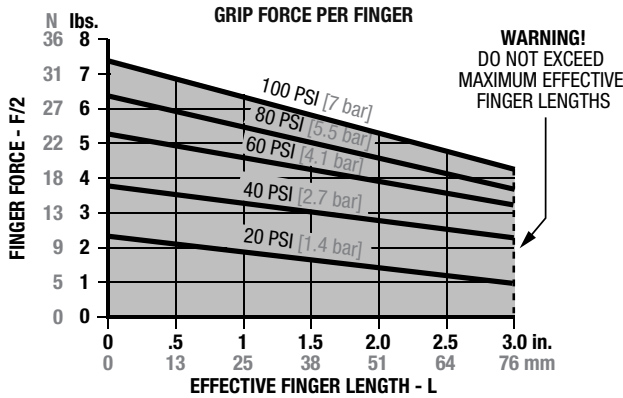
SAMPLE ORDER: DPDL-047M-038-E-CR-V

Ex: DPDL-047M Gripper, Metric, 6.4mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

DIRECTCONNECT™



Loading Information



Loading Capacity[†]

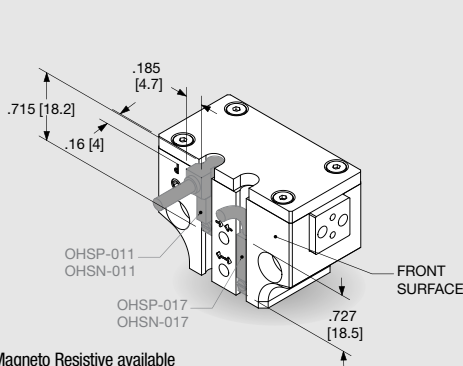
	Static	Dynamic
DPDL-047M		
Maximum Tensile T	100 lbs. [445 N]	15 lbs. [67 N]
Maximum Compressive C	150 lbs. [668 N]	25 lbs. [111 N]
Maximum Moment M_x	90 in.-lbs. [10 Nm]	15 in.-lbs. [2 Nm]
Maximum Moment M_y	90 in.-lbs. [10 Nm]	15 in.-lbs. [2 Nm]
Maximum Moment M_z	90 in.-lbs. [10 Nm]	15 in.-lbs. [2 Nm]
DPDL-047M-B (Bottom Jaw Mounting Option)		
Maximum Tensile T	80 lbs. [356 N]	12 lbs. [53 N]
Maximum Compressive C	120 lbs. [534 N]	20 lbs. [89 N]
Maximum Moment M_x	72 in.-lbs. [8 Nm]	12 in.-lbs. [1 Nm]
Maximum Moment M_y	72 in.-lbs. [8 Nm]	12 in.-lbs. [1 Nm]
Maximum Moment M_z	72 in.-lbs. [8 Nm]	12 in.-lbs. [1 Nm]

[†]Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-047M	
Total Rated Grip Force F @ 100 psi, 7 bar	14 lbs.	62 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
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with -E Jaw Boot	4 psi	0.25 bar
Cylinder Bore \emptyset	0.469 in.	11.9 mm
Displacement	0.038 in. ³	0.6 cm ³

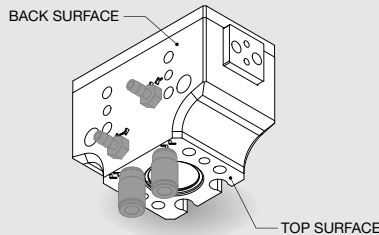
Specifications (cont.)	DPDL-047M	
Weight	0.186 lbs.	0.08 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.20 sec.	0.20 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

Accessory Mounting Technical Data



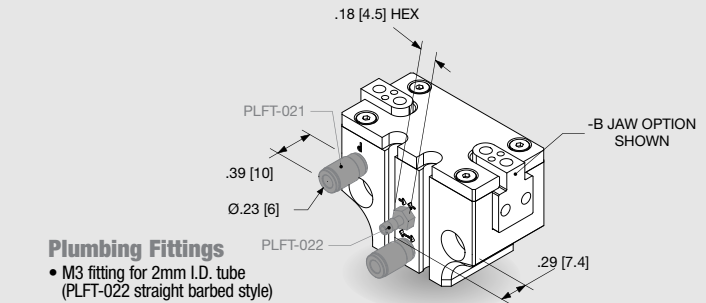
Sensors

- 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)



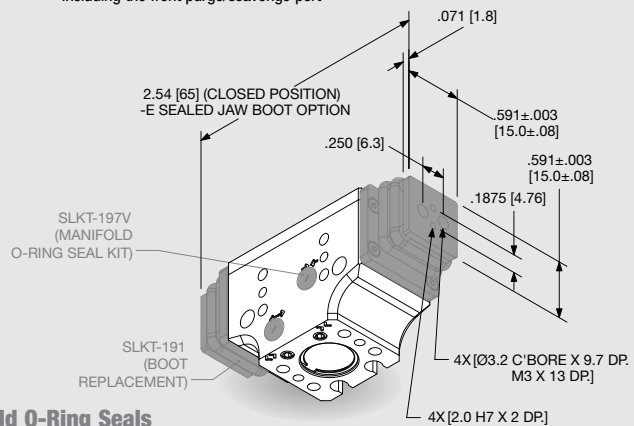
Multiple Air Port Locations

- 3 standard 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



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: \emptyset .215 [\emptyset 5.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

Sealed Jaw Boot Option

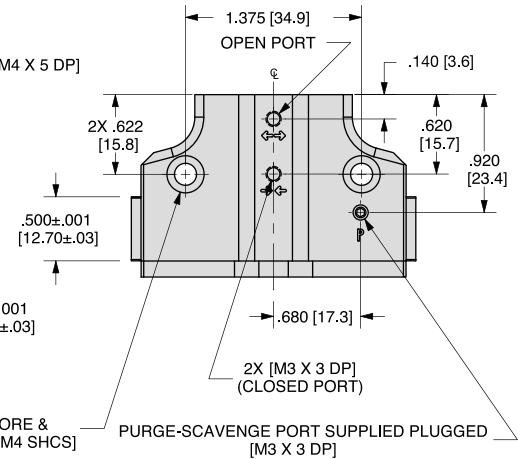
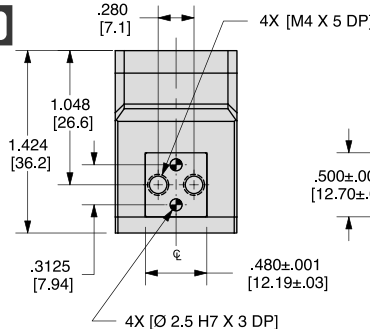
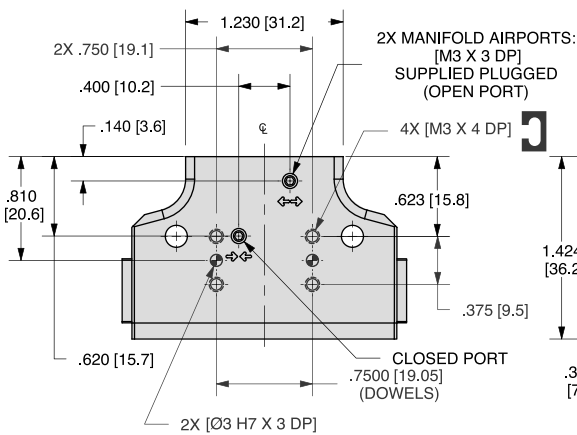
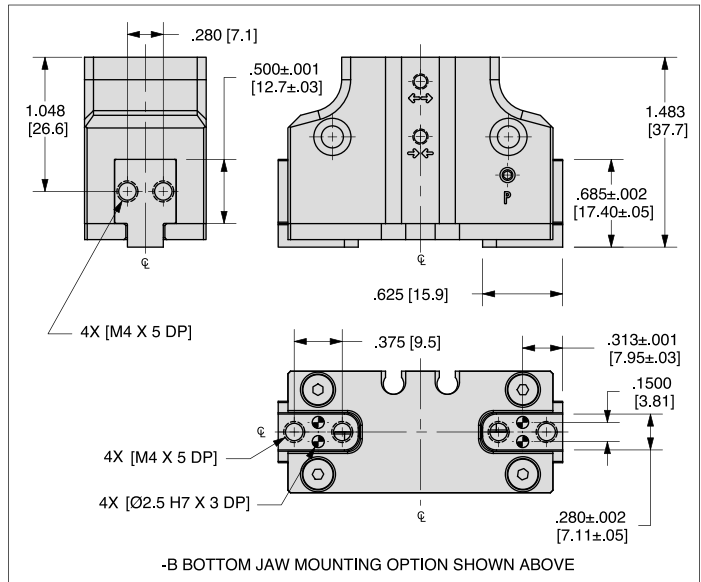
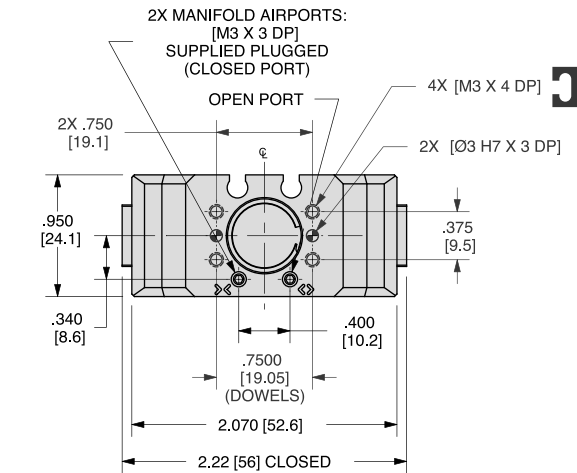
- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only



PARALLEL GRIPPER DPDL-056M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.150



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** **JAW SEAL™** **HARDWARE**

DPDL-056M - [] - **B** - **E** - [] - **V**

JAW MOUNTING **VITON® SEALS**

STROKE
050 .50" [12.7mm]
038 .38" [9.5mm]
025 .25" [6.4mm]

JAW MOUNTING **B** Bottom jaw mounting
 Leave blank for end jaw mounting (standard)

JAW BOOT SEAL** **E** Buna-N rubber bellows

HARDWARE
S Corrosion resistant
CR Corrosion resistant assembled with clean room grade grease
 Leave blank for alloy hardware (standard)

VITON®† **V** High Temperature Viton® Seals

SENSOR ACCESSORIES

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

PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	SLKT-186	1
Viton® Seal Repair Kit	SLKT-186V	1
Manifold Seal Kit (Viton®)	SLKT-197V	1
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	SLKT-192	1 or 2
Plumbing Fitting - M3 male to 3mm OD Tube Push-in Style	PLFT-021	1 or 2
Plumbing Fitting - M3 male to 2mm ID Tube Barb Style	PLFT-022	1 or 2

* Sensor and cable sold separately

** -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected. See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

SAMPLE ORDER: DPDL-056M-038-E-CR-V

Ex: DPDL-056M Gripper, Metric, 12.7mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

Please see back cover for DE-STA-CO Global Locations. www.destaco.com

www.comoso.com

DIRECTCONNECT™



PARALLEL GRIPPER DPDL-056M DIRECTCONNECT™ MODULAR SERIES

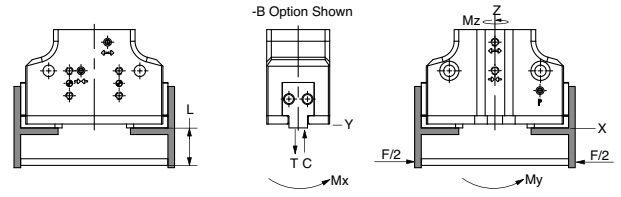
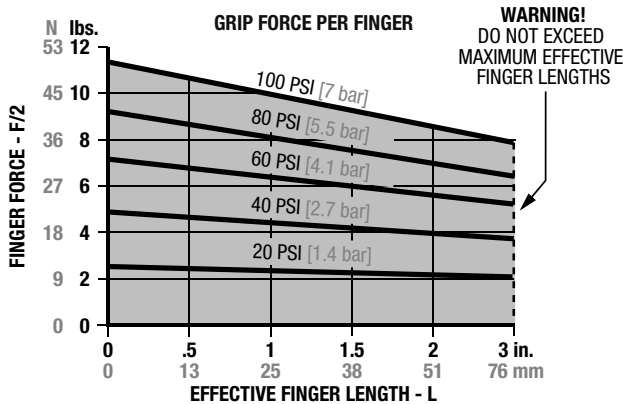
DPDL SERIES

1.151



DIRECTCONNECT™

Loading Information



Loading Capacity[†]

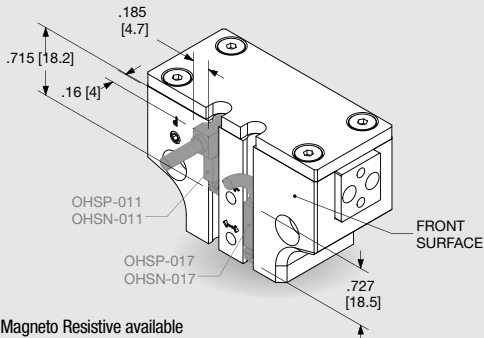
	Static	Dynamic
DPDL-056M		
Maximum Tensile T	125 lbs. [556 N]	25 lbs. [111 N]
Maximum Compressive C	250 lbs. [1113 N]	25 lbs. [111 N]
Maximum Moment M_x	115 in.-lbs. [13 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment M_y	115 in.-lbs. [13 Nm]	20 in.-lbs. [2 Nm]
Maximum Moment M_z	115 in.-lbs. [13 Nm]	20 in.-lbs. [2 Nm]
DPDL-056M-B (Bottom Jaw Mounting Option)		
Maximum Tensile T	100 lbs. [445 N]	20 lbs. [89 N]
Maximum Compressive C	200 lbs. [890 N]	20 lbs. [89 N]
Maximum Moment M_x	92 in.-lbs. [10 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment M_y	92 in.-lbs. [10 Nm]	16 in.-lbs. [2 Nm]
Maximum Moment M_z	92 in.-lbs. [10 Nm]	16 in.-lbs. [2 Nm]

[†]Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-056M	
Total Rated Grip Force F @ 100 psi, 7 bar	22 lbs.	98 N
Maximum Stroke	0.50 in.	12.7 mm
Maximum Operating Pressure Range	20-100 psi	1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg	200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with -E Jaw Boot	4 psi	0.25 bar
Cylinder Bore \emptyset	0.563 in.	14.3 mm
Displacement	0.074 in. ³	1.2 cm ³

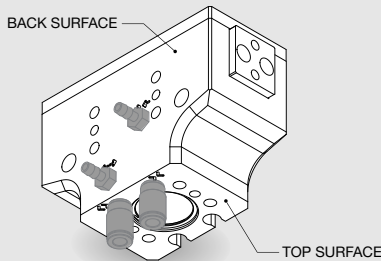
Specifications (cont.)	DPDL-056M	
Weight	0.315 lbs.	0.14 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.25 sec.	0.25 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

Accessory Mounting Technical Data



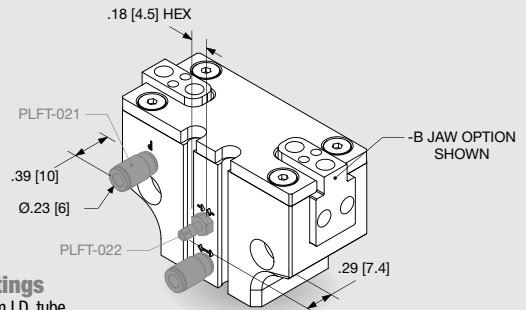
Sensors

- 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)



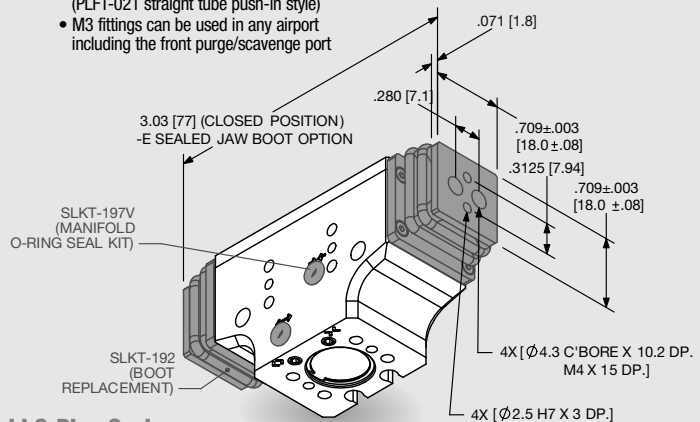
Multiple Air Port Locations

- 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



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: \emptyset .215 [05.5] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

Sealed Jaw Boot Option

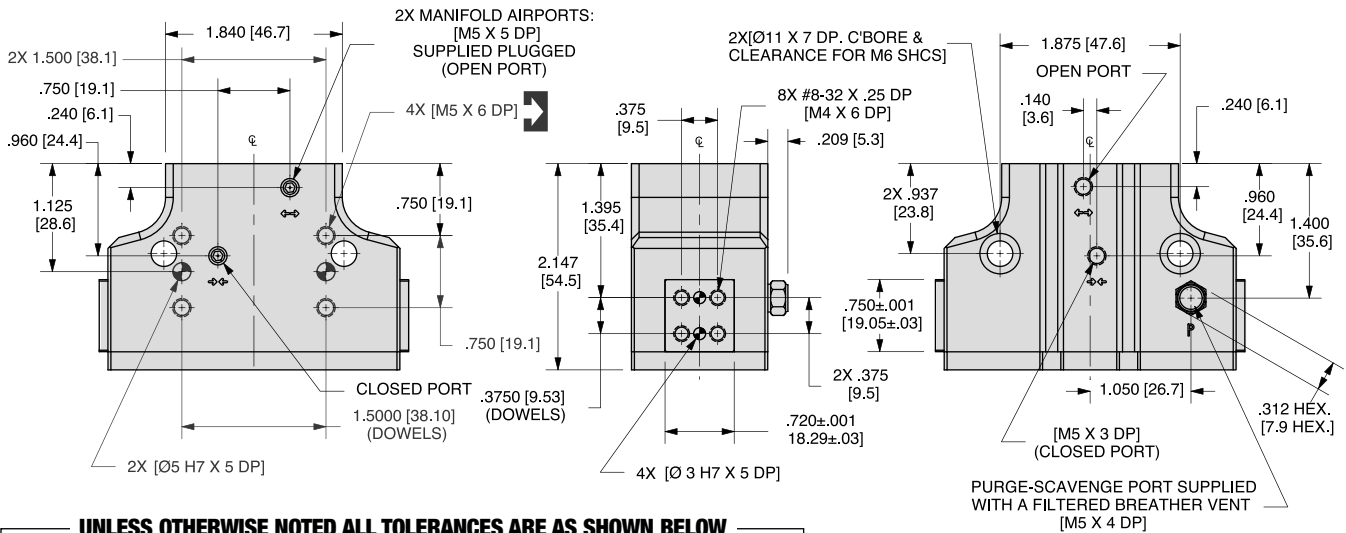
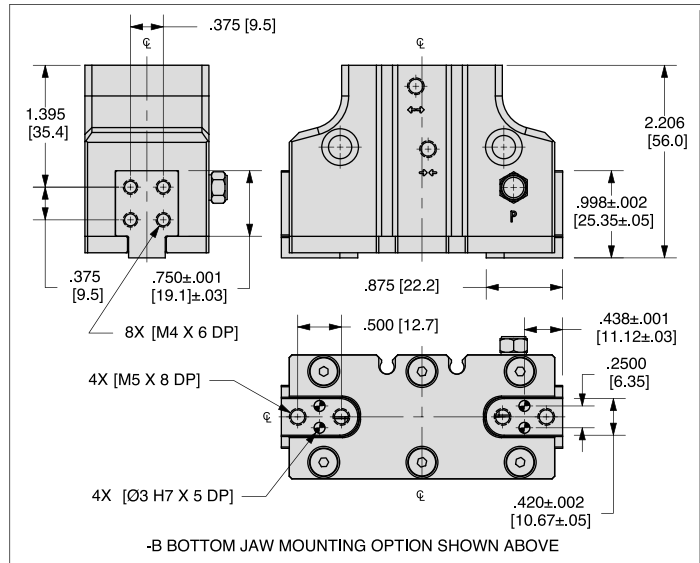
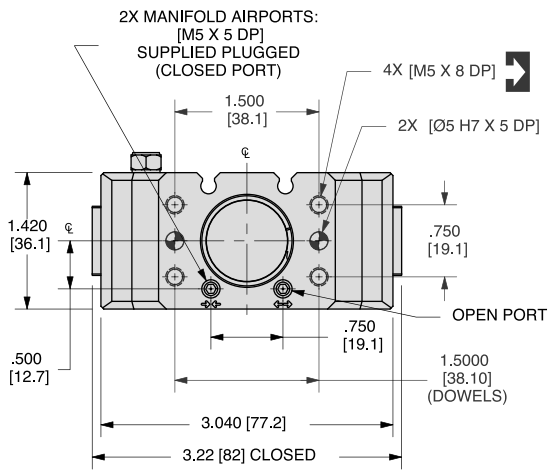
- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only



PARALLEL GRIPPER DPDL-088M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.152

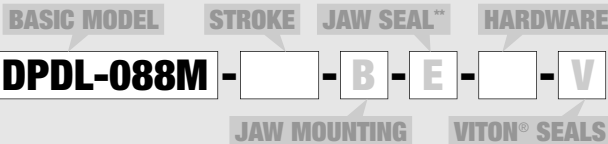


UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

				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)



STROKE	075	.75" [19.1mm]
	050	.50" [12.7mm]
	038	.38" [9.5mm]
JAW MOUNTING	B	Bottom jaw mounting
	—	Leave blank for end jaw mounting (standard)
JAW BOOT SEAL**	—	Buna-N rubber bellows
HARDWARE	S	Corrosion resistant
	CR	Corrosion resistant assembled with clean room grade grease
	—	Leave blank for alloy hardware (standard)
VITON® 1	V	High Temperature Viton® Seals

SENSOR ACCESSORIES

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

PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	SLKT-187	1
Viton® Seal Repair Kit	SLKT-187V	1
Manifold Seal Kit (Viton®)	SLKT-199V	1
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	SLKT-193	1 or 2
Adjustable Flow Control M5 Elbow - 6mm OD Push-in (Metric)	VLVF-008	1 or 2
Fail Safe Valve M5	OFSV-004	1 or 2

* Sensor and cable sold separately

** -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected. See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

SAMPLE ORDER: DPDL-088M-050-E-CR-V

Ex: DPDL-088M Gripper, Metric, 12.7mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

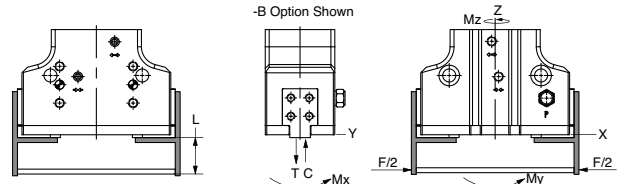
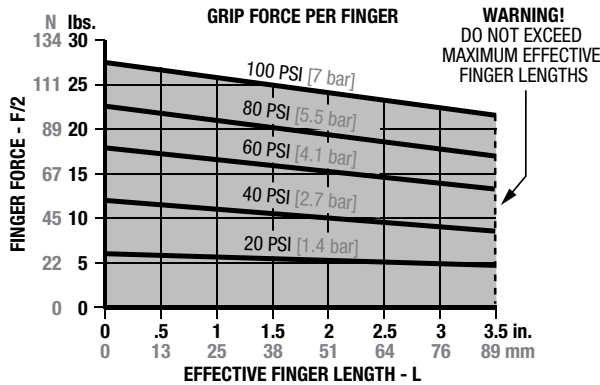
Please see back cover for DE-STA-CO Global Locations. www.destaco.com

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DIRECTCONNECT™



Loading Information



Loading Capacity¹

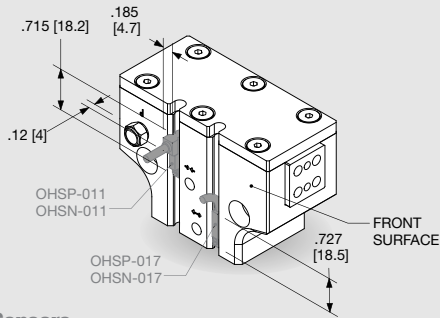
	Static	Dynamic
DPDL-088M		
Maximum Tensile T	350 lbs. [1558 N]	40 lbs. [178 N]
Maximum Compressive C	650 lbs. [2893 N]	40 lbs. [178 N]
Maximum Moment M_x	250 in.-lbs. [28 Nm]	40 in.-lbs. [5 Nm]
Maximum Moment M_y	250 in.-lbs. [28 Nm]	40 in.-lbs. [5 Nm]
Maximum Moment M_z	250 in.-lbs. [28 Nm]	40 in.-lbs. [5 Nm]
DPDL-088M-B (Bottom Jaw Mounting Option)		
Maximum Tensile T	280 lbs. [1246 N]	32 lbs. [142 N]
Maximum Compressive C	520 lbs. [2314 N]	32 lbs. [142 N]
Maximum Moment M_x	200 in.-lbs. [23 Nm]	32 in.-lbs. [4 Nm]
Maximum Moment M_y	200 in.-lbs. [23 Nm]	32 in.-lbs. [4 Nm]
Maximum Moment M_z	200 in.-lbs. [23 Nm]	32 in.-lbs. [4 Nm]

¹Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-088M	
Total Rated Grip Force F @ 100 psi, 7 bar	50 lbs.	222 N
Maximum Stroke	0.75 in.	19.1 mm
Maximum Operating Pressure Range	20-100 psi	1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg	200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with -E Jaw Boot	4 psi	0.25 bar
Cylinder Bore \varnothing	0.875 in.	22.2 mm
Displacement	0.269 in ³	4.4 cm ³

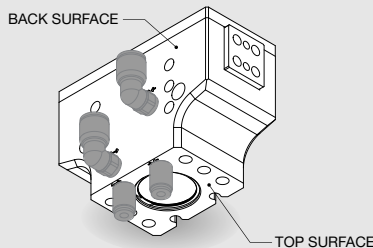
Specifications (cont.)	DPDL-088M	
Weight	0.95 lbs.	0.43 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.30 sec.	0.30 sec.
Accuracy	±0.002 in.	±0.05 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

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)

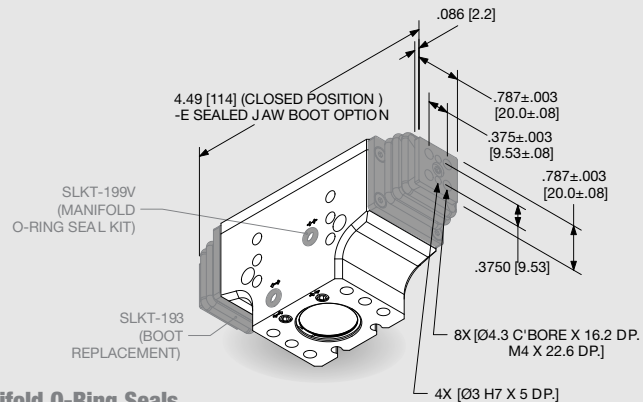
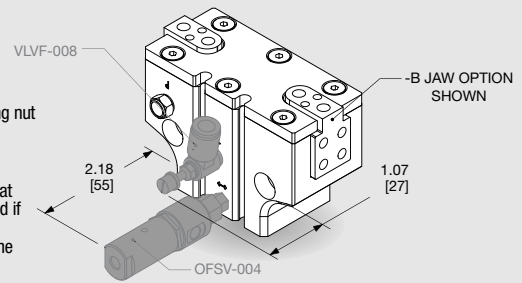


Multiple Air Port Locations

- 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
- 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 29.0 [Ø7.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

Sealed Jaw Boot Option

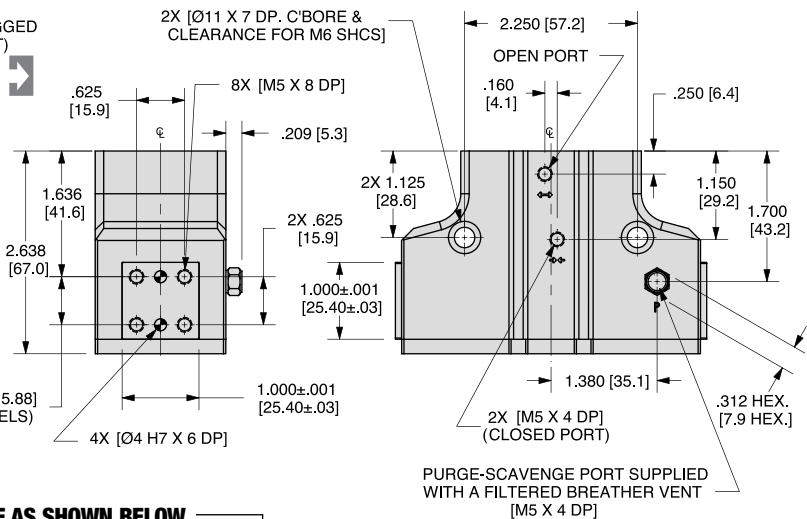
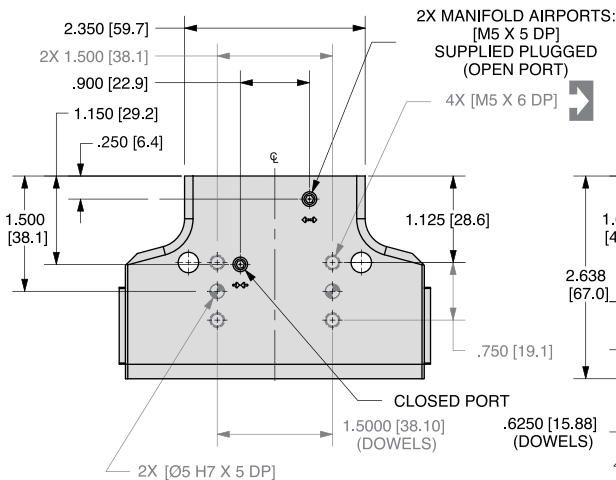
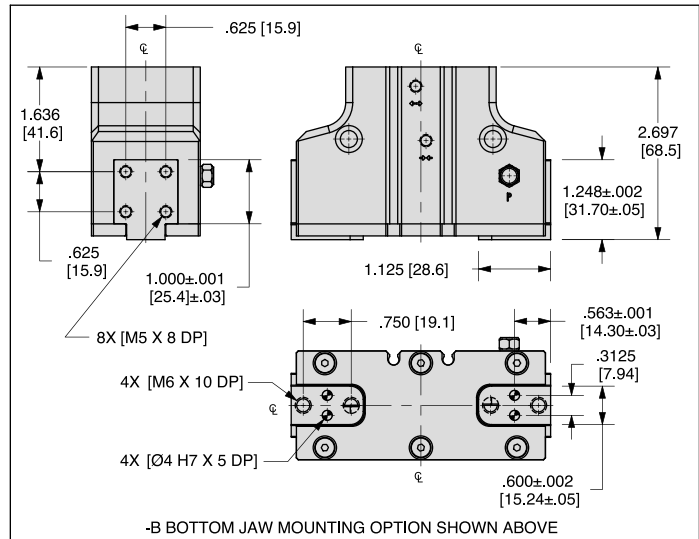
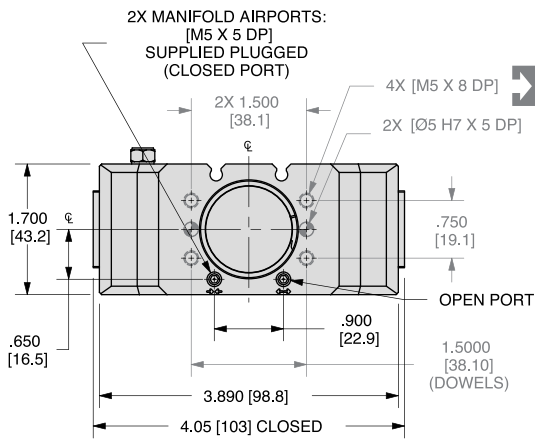
- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only



PARALLEL GRIPPER DPDL-125M DIRECTCONNECT™ MODULAR SERIES

DPDL SERIES

1.154



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** **JAW SEAL*** **HARDWARE**

DPDL-125M - [] - **B** - **E** - [] - **V**

JAW MOUNTING **VITON® SEALS**

STROKE **100** 1.00" [25.4mm]
075 .75" [19.1mm]
050 .50" [12.7mm]

JAW MOUNTING **B** Bottom jaw mounting
Leave blank for end jaw mounting (standard)

JAW BOOT SEAL** **—** Buna-N rubber bellows

HARDWARE **S** Corrosion resistant
CR Corrosion resistant assembled with clean room grade grease
Leave blank for alloy hardware (standard)

VITON®¹ **V** High Temperature Viton® Seals

SENSOR ACCESSORIES

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

PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	SLKT-188	1
Viton® Seal Repair Kit	SLKT-188V	1
Manifold Seal Kit (Viton®)	SLKT-199V	1
Sealed Jaw Boot Replacement (1 boot, Buna-N only)	SLKT-194	1 or 2
Adj. Flow Control M5 Elbow - 6mm OD Push-in (Metric)	VLVF-008	1 or 2
Fail Safe Valve M5	OFSV-004	1 or 2

* Sensor and cable sold separately

** -E Jaw Boot Seal option is not available with -B Bottom Jaw Mounting option.

See Accessory Mounting Data Section for -E Seal option dimensions.

† -E Rubber Jaw Boot seals are Buna-N (Nitrile) material even if the -V Viton® gripper option is selected. See page 1.66 for more detailed technical specifications on the -E option Jaw Boot material

SAMPLE ORDER: DPDL-125M-075-E-CR-V

Ex: DPDL-125M Gripper, Metric, 25.4mm Stroke, Jaw Boot Seal, Corrosion Resistant Hardware with Clean Room Grade Grease, Viton® Seals

Please see back cover for DE-STA-CO Global Locations. www.destaco.com

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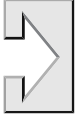
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PARALLEL GRIPPER DPDL-125M DIRECTCONNECT™ MODULAR SERIES

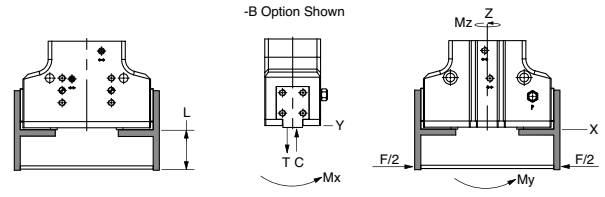
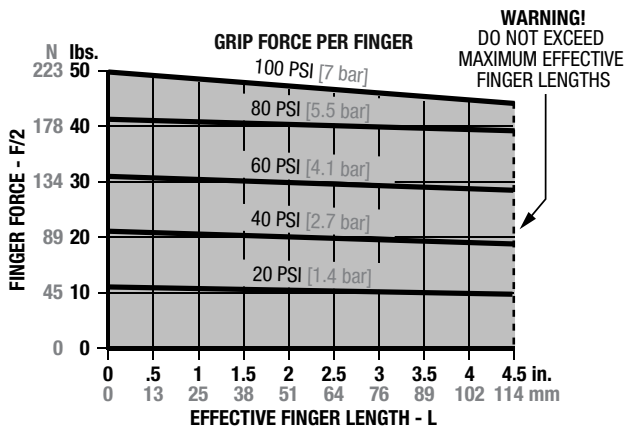
DPDL SERIES

1.155



DIRECTCONNECT™

Loading Information



Loading Capacity[†]

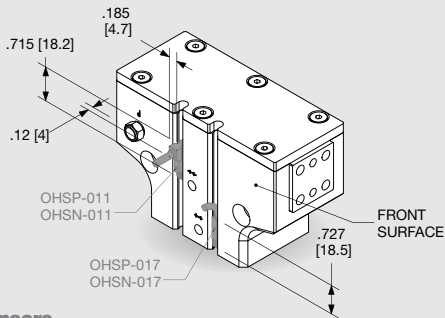
	Static	Dynamic
DPDL-125M		
Maximum Tensile T	675 lbs. [3004 N]	90 lbs. [401 N]
Maximum Compressive C	1300 lbs. [5785 N]	90 lbs. [401 N]
Maximum Moment M_x	650 in.-lbs. [73 Nm]	110 in.-lbs. [12 Nm]
Maximum Moment M_y	650 in.-lbs. [73 Nm]	110 in.-lbs. [12 Nm]
Maximum Moment M_z	650 in.-lbs. [73 Nm]	110 in.-lbs. [12 Nm]
DPDL-125M-B (Bottom Jaw Mounting Option)		
Maximum Tensile T	540 lbs. [2403 N]	72 lbs. [320 N]
Maximum Compressive C	1040 lbs. [4628 N]	72 lbs. [320 N]
Maximum Moment M_x	520 in.-lbs. [59 Nm]	88 in.-lbs. [10 Nm]
Maximum Moment M_y	520 in.-lbs. [59 Nm]	88 in.-lbs. [10 Nm]
Maximum Moment M_z	520 in.-lbs. [59 Nm]	88 in.-lbs. [10 Nm]

[†]Capacities are per set of jaws and are not simultaneous

Specifications	DPDL-125M	
Total Rated Grip Force F @ 100 psi, 7 bar	100 lbs.	445 N
Maximum Stroke	1.00 in.	25.4 mm
Maximum Operating Pressure Range	20-100 psi	1.5-7 bar
Maximum Vacuum for Scavenge Port	8 in. Hg	200 mm Hg
Max Pressure for Purge Port: (Standard)	20 psi	1.4 bar
with -E Jaw Boot	4 psi	0.25 bar
Cylinder Bore \emptyset	1.250 in.	31.8 mm
Displacement	0.730 in ³	12.0 cm ³

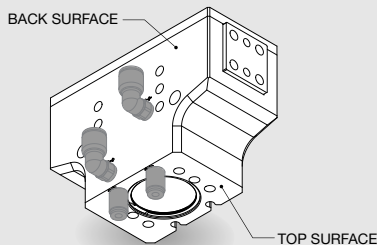
Specifications (cont.)	DPDL-125M	
Weight	1.99 lbs.	0.90 Kg
Temperature Range: Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.50 sec.	0.50 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve Required to Actuate	4-way, 2-position	

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)

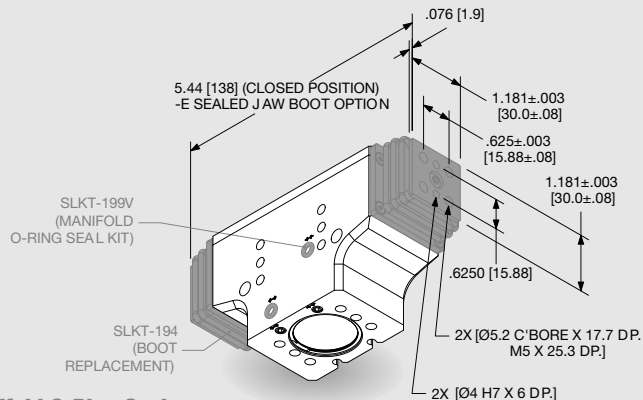
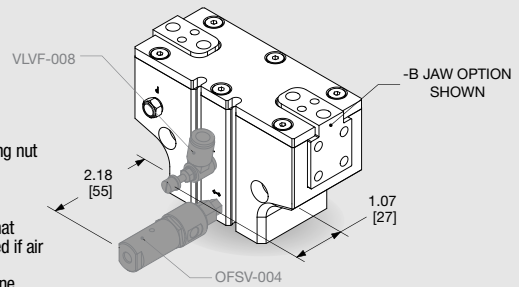


Multiple Air Port Locations

- 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: \emptyset .290 [Ø7.4] X .060±.002 [1.52±.05] deep
- Kit is supplied with all seals, plugs, & wrenches needed

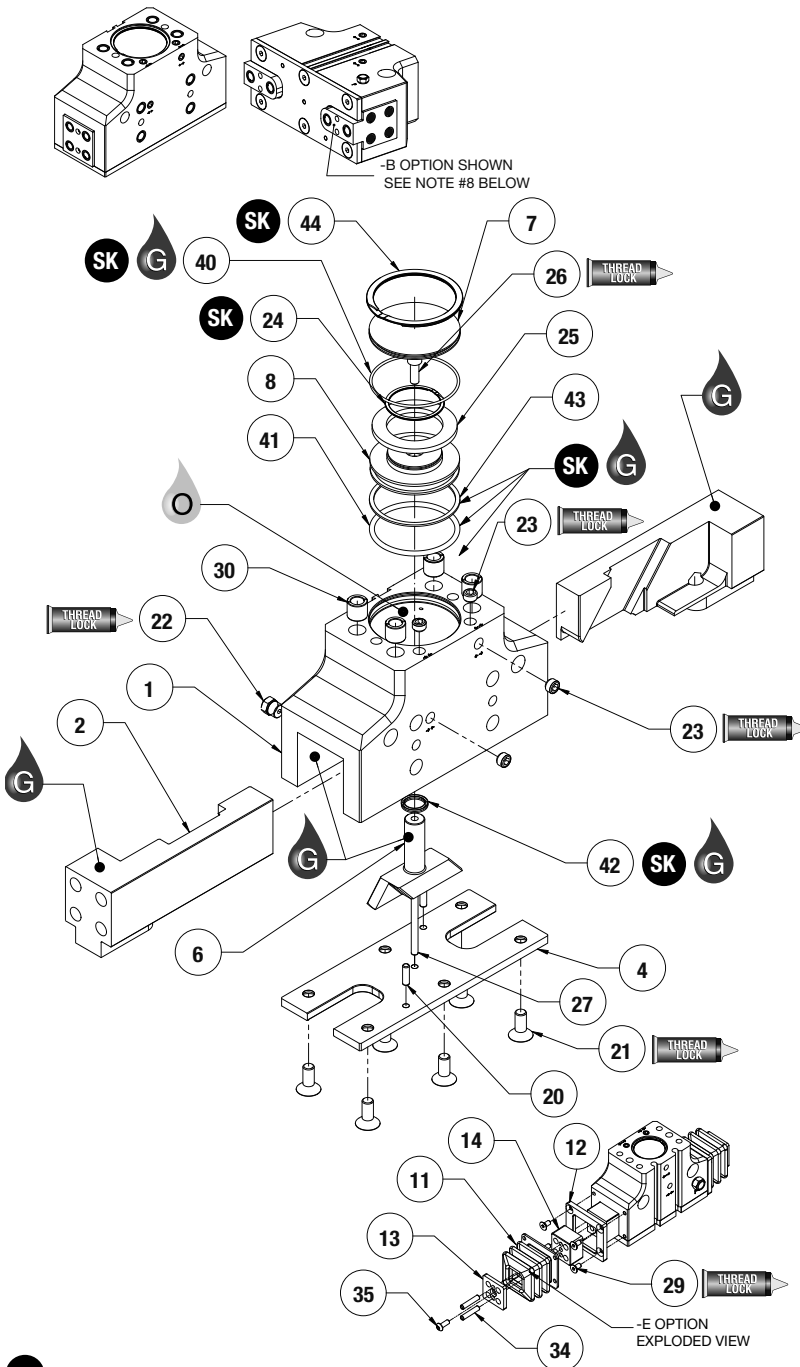
Sealed Jaw Boot Option

- Can be used to seal jaws in harsh environments
- Boot replacement available as an accessory
- Boot material is Buna-N (Nitrile) only

Please see back cover for DE-STA-CO Global Locations. www.destaco.com

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DPDL 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
11	2	Boot
12	2	Boot Flange
13	2	Boot Spacer Cap
14	2	Boot Spacer
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
29	8	Boot Flange Mounting Screws
34	4	Boot Spacer Dowel Pins
35*	2	Boot Spacer Mtg Screws
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
44	1	Cap Ret. Ring

- NOTES:***
- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
 - 4) Item #22 Breather vent plug is a set screw plug for sizes -047 & -056.
 - 7) Item #35 is for sizes -088 thru -125 only.
 - 8) End-of-jaw mounting holes on -B option are supplied plugged to prevent debris from entering the gripper. These set screws can be removed for customer finger mounting. It is recommend that all unused holes be plugged for the same reason.

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

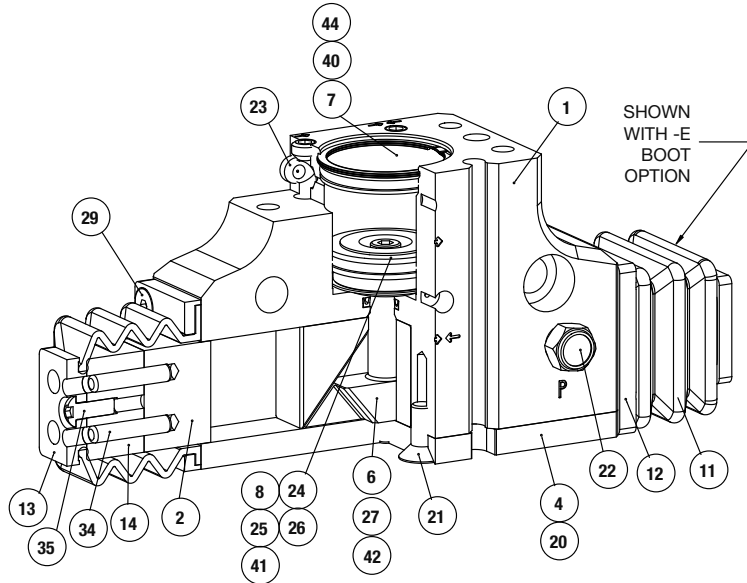
Assembly Procedure:

- 1) Install #23 airport plugs with thread-locker.
- 2) Press pins #20 & #27 into plate #4.
- 3) Install #22 vent or plug with thread-locker.
- 4) Mount magnet #25 to piston #8 with retaining ring #24.
- 5) Lubricate body #1 (jaw cavity & bores).
- 6) Lubricate & install all seals into body, piston, & cap.
- 7) Sub-assemble the #2 jaws on either side of the #6 shaft wedge with lubrication.
- 8) Insert the jaws and shaft wedge sub-assembly into body.

- 9) Insert piston #8 into the body bore and fasten it to the shaft wedge with Mounting screw # 26 using thread locker.
- 10) Install cap #7 into body with retaining ring #44.
- 11) Insert #4 bottom plate with pressed-in pins onto the body and fasten with #21 screws with thread-locker.

-E Option Assembly Procedure:

- 1) Insert pins #34 into the jaw dowel pin holes.
- 2) Place #14 boot spacer over pins
- 3) Fasten boot #11 and flange #12 to body #1 with #29 screws.
- 4) Fasten the spacer cap #13 to the spacer #14 with #35 screw.

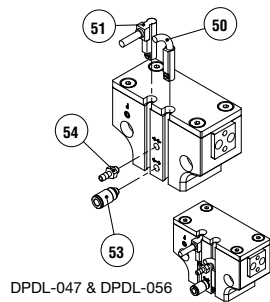


Item	Qty	Name
01	1	Body
02	2	Jaw
04	1	Bottom Plate
06*	1	Shaft Wedge
07	1	Cap
08	1	Piston
11	2	Boot
12	2	Boot Flange
13	2	Boot Spacer Cap
14	2	Boot Spacer
20	2	Bottom Plate Locating Dowels
21	6	Bottom Plate Screws
22*	1	Breather Vent Plug (Purge)
23	4	Manifold Port Plugs
24	1	Piston Mag. Ret. Ring
25	1	Piston Magnet
26	1	Piston Mounting Screw
27	1	Shaft guide dowel pin
29	8	Boot Flange Mounting Screws
34	4	Boot Spacer Dowel Pins
35*	2	Boot Spacer Mtg Screws
40	1	Cap O-ring
41	1	Piston O-ring
42	1	U-cup
44	1	Cap Ret. Ring

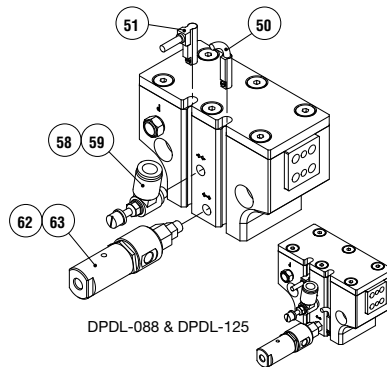
NOTES:*

- 1) Contact the Destaco-Robohand Sales Department for a complete spare parts list with order numbers and prices.
- 2) Item #22 breather vent plug is a set screw plug for sizes -047 & -056.

Accessory Installation & Adjustment Instructions



DPDL-047 & DPDL-056



DPDL-088 & DPDL-125

Magneto-Resistive Sensors:

- 1) Insert sensors #50 or #51 from either end of the profile slots and set the sensor with the integrated screw.

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.

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
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	Adj. Flow Control (Metric) M5 elbow - 6mm OD Push-in Style
63	1	Fail Safe Valve (Metric) M5

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