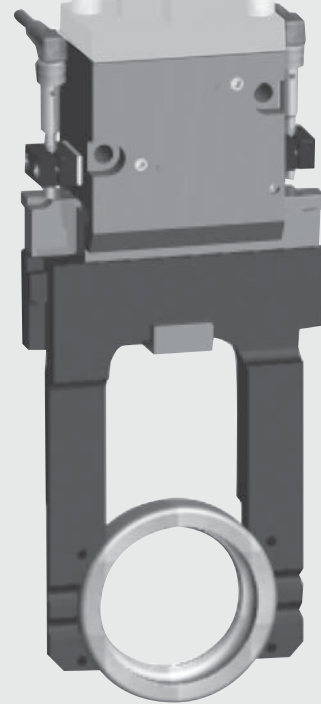


Parallel Grippers - Two Jaw Precision Spring Series

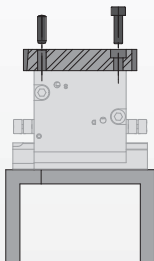


- Compact and shielded gripper:**
 This gripper is designed for use in confined spaces, combining long strokes with a high grip force. Standard safety springs retain the components should the air supply fail, or during gripping, the spring provides additional gripforce.
- Multipurpose gripper:**
 The safety springs allow this gripper to be used to clamp on arbor or in bore without the need for any modifications. All the user has to do is to change the jaw position in the jaw holders.
- Harsh environments:**
 Shielded design repels chips and other particulate from internal drive mechanism.

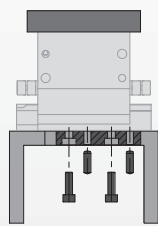
Mounting Information:

Gripper can be mounted and operated in any orientation

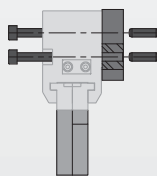
The gripper is protected from falling debris when it is mounted and operated upside down.



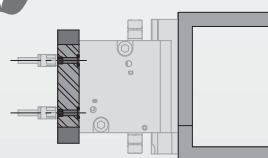
Gripper is located from the top with 2 dowel pins and assembled with 2 screws (by pulling).



Fingers are located on jaws with 2 dowel pins and assembled with 2 screws.



Gripper is located on the side with 2 dowel pins and assembled with 2 through body screws.



Gripper can be operated utilizing top manifold air ports.

Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	45-100 psi	3-7 bar
Cylinder Type	Double Acting Spring Assist or Single Acting Spring Return	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position for Double Acting or 3-way, 2-position for Single Acting	

Air Quality Requirements

Air Filtration	40 Micron or Better	
Air Lubrication	Not Necessary*	
Air Humidity	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	5 million cycles
Normal Application w/ Preventative Maintenance	10+ million cycles*
Field Repairable	Yes
Seal Repair Kits Available	Yes

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

Product Features

Quality Components

Made from Aluminum alloy with hard coat anodized with Teflon™ Impregnation. The gripper's main components are made of heat treated steel.

Jaws

Jaws are made from heat treated steel

Gripper Attachment

Gripper can be mounted from top or sides

Jaw Attachment

Each jaw allows jaw attachment for gripping on OD or ID

Cover

Gripper body is shielded to repel chips and other particulate from internal drive mechanism.

Viton® Seals

Viton® seals for high temperatures (-20°F to +300°F) are optional.

Multiple Air Ports

Side or top manifold air ports.

Spring Assist

Standard springs allow the gripper to retain the component, should the air supply fail or to use the gripper in single acting mode by clamping on the shaft or the bore.

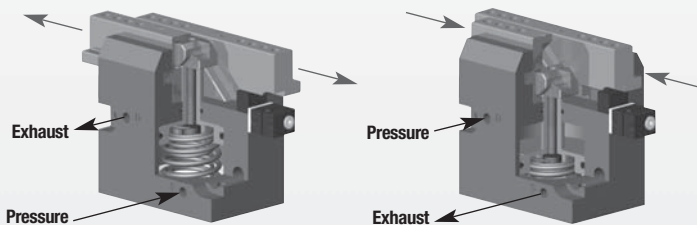
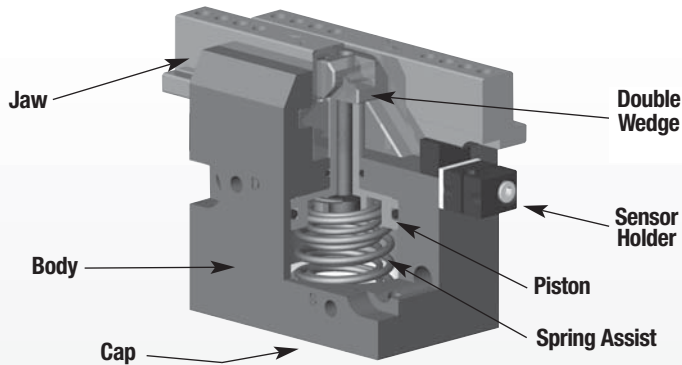
DIRECTCONNECT™ Mounting Patterns

DIRECTCONNECT™ tapped & dowel mounting surface available on **DGC** version [except -85 & 105]

Inductive Sensing

Standard inductive sensor holders allow you to attach optional inductive sensor to sense up to two ends of stroke (non-adjustable)

Operating Principle



- Two safety springs apply pressure to a piston. One end of the piston is connected to a double wedge that has two opposing racks that slide in the jaw holder slot.
- It converts vertical motion of the piston into horizontal opposite synchronous motion of the 2 jaws.
- In order to benefit from spring power and from pneumatic control power, the pneumatic inlet must be applied to "S" for gripping and with "D" for release. An arrow etched onto each jaw holder indicates the gripping direction.
- Springs can be used to increase the grip force or to hold part in the event of air loss. It also allows the gripper to be used in single acting mode.

Style -DGC Parallel Gripper

Size -25

Style:	GC-25	
Stroke:	0.79 in.	20 mm
Grip Force:	106 lbs.	474 N
Weight:	0.77 lbs.	0.35 Kg



See Page **1.188**

Style -DGC Parallel Gripper

Size -45

Style:	GC-45	
Stroke:	1.18 in.	30 mm
Grip Force:	108 lbs.	481 N
Weight:	1.32 lbs.	0.60 Kg

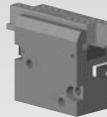


See Page **1.189**

Style -DGC Parallel Gripper

Size -65

Style:	GC-65	
Stroke:	1.57 in.	40 mm
Grip Force:	179 lbs.	796 N
Weight:	2.87 lbs.	1.30 Kg



See Page **1.190**

Style -GC Parallel Gripper

Size -85

Style:	GC-85	
Stroke:	1.97 in.	50 mm
Grip Force:	333 lbs.	1480 N
Weight:	4.85 lbs.	2.20 Kg



See Page **1.191**

Style -GC Parallel Gripper

Size -105

Style:	GC105	
Stroke:	2.36 in.	60 mm
Grip Force:	521 lbs.	2318 N
Weight:	9.50 lbs.	4.31 Kg



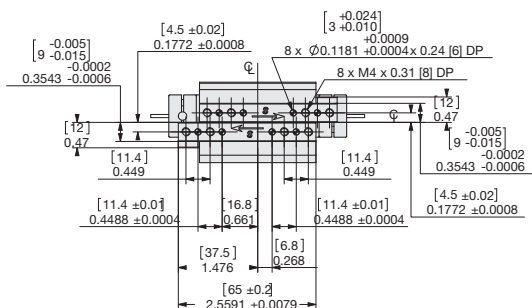
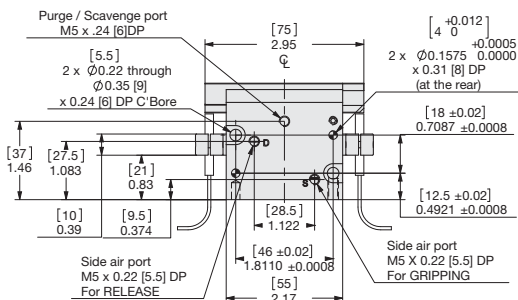
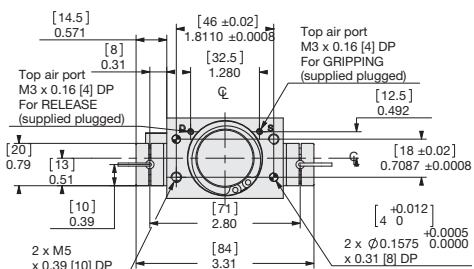
See Page **1.192**



PARALLEL GRIPPER DGC-25 TWO JAW PRECISION SPRING ASSIST

GC SERIES

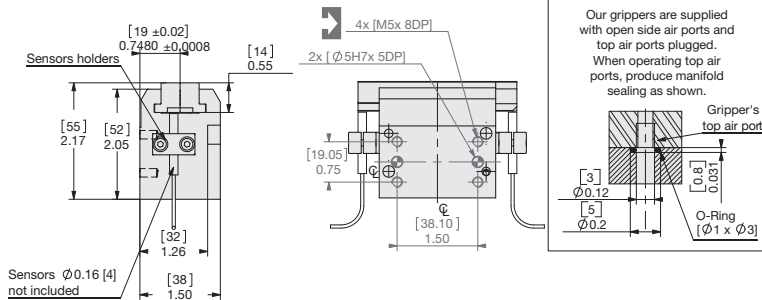
1.188



Specifications

	DGC-25	
Total Rated Grip Force F @ 100 psi, 7 bar*	106 lbs.	474 N
Stroke	0.787 in	20 mm
Weight	0.77 lbs.	0.35 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore \varnothing	1.34 in.	34 mm
Displacement	0.98 in ³	16 cm ³
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.2 sec.	0.2 sec.
Accuracy	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting . . .		3-way 2-position
Valve required to actuate double acting . . .		4-way, 2-position

*With springs.



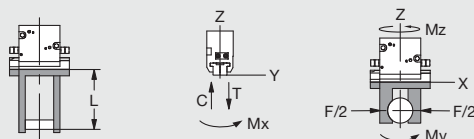
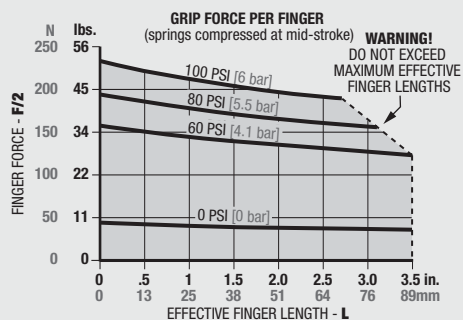
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

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

NOTE:
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.

Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")

Loading Information



Loading Capacity [†]	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile T	28 lbs.	125 N	6 lbs.	25 N
Maximum Compressive C	33 lbs.	145 N	7 lbs.	29 N
Maximum Moment M_x	18 in.-lbs.	2 Nm	4 in.-lbs.	0.5 Nm
Maximum Moment M_y	35 in.-lbs.	4 Nm	9 in.-lbs.	1 Nm
Maximum Moment M_z	53 in.-lbs.	6 Nm	13 in.-lbs.	1.5 Nm

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

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

BASIC MODEL

DGC-25-V

SIZE VITON® SEALS

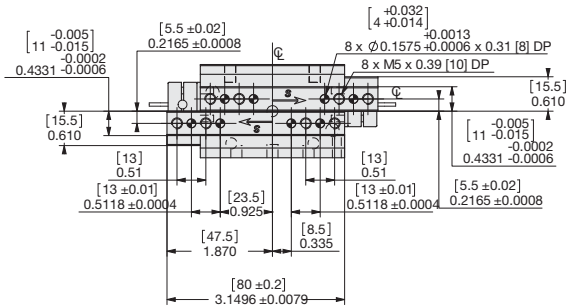
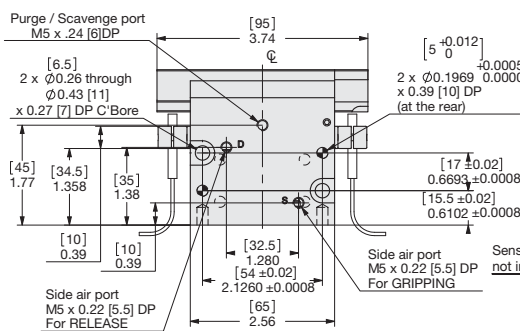
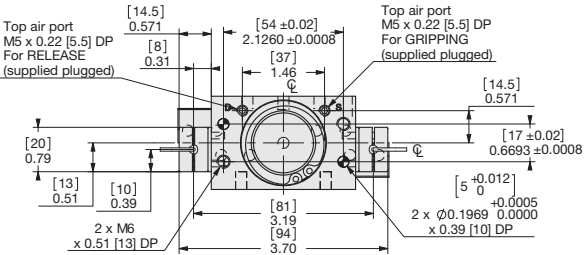
SENSOR ACCESSORIES

4mm PNP Inductive Sensor with Qk Disconnect*	OISP-014	1 or 2
4mm NPN Inductive Sensor with Qk Disconnect*	OISN-014	1 or 2
Quick Disconnect 2 Meter Cable*	CABL-010	1 or 2
Quick Disconnect 5 Meter Cable*	CABL-013	1 or 2

PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	SLKT-319	1
Viton® Seal Repair Kit	SLKT-319V	1

*Sensor and cable sold separately.



Specifications

	DGC-45	
Total Rated Grip Force F @ 100 psi, 7 bar*	108 lbs.	481 N
Stroke	1.181 in	30 mm
Weight	1.32 lbs.	0.60 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore Ø	1.46 in.	37 mm
Displacement	1.77 in ³	29 cm ³
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	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting . . .		3-way 2-position
Valve required to actuate double acting . . .		4-way, 2-position

*With springs.

Our grippers are supplied with open side air ports and top air ports plugged. When operating top air ports, produce manifold sealing as shown.

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

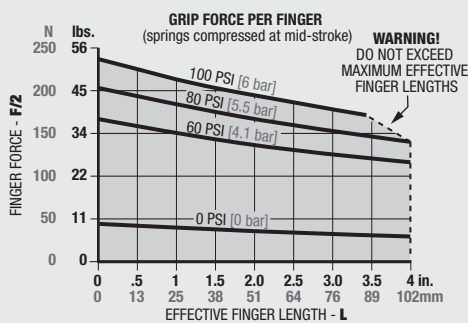
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
Metric Threads Course Pitch	Imperial in. 0.00 ± .01 0.000 ± .005 0.0000 ± .0005	Metric [mm] [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013]

NOTE:
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.

Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")

Loading Information

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



BASIC MODEL

DGC-45-V

SIZE VITON® SEALS

SENSOR ACCESSORIES

- 4mm PNP Inductive Sensor with Qk Disconnect*
- 4mm NPN Inductive Sensor with Qk Disconnect*
- Quick Disconnect 2 Meter Cable*
- Quick Disconnect 5 Meter Cable*

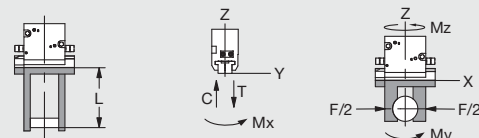
ORDER #	QTY/UNIT
OISP-014	1 or 2
ONSN-014	1 or 2
CABL-010	1 or 2
CABL-013	1 or 2

PNEUMATIC ACCESSORIES

- Standard Seal Repair Kit
- Viton® Seal Repair Kit

SLKT-321	1
SLKT-321V	1

*Sensor and cable sold separately.



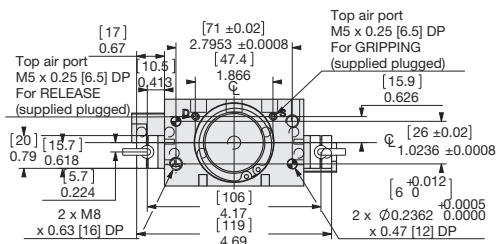
Loading Capacity†	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile T	46 lbs.	205 N	9 lbs.	41 N
Maximum Compressive C	51 lbs.	225 N	10 lbs.	45 N
Maximum Moment M_x	27 in.-lbs.	3 Nm	7 in.-lbs.	0.75 Nm
Maximum Moment M_y	53 in.-lbs.	6 Nm	13 in.-lbs.	1.5 Nm
Maximum Moment M_z	80 in.-lbs.	9 Nm	20 in.-lbs.	2.25 Nm

†Capacities are per set of jaws and are not simultaneous

PARALLEL GRIPPER DGC-65 TWO JAW PRECISION SPRING ASSIST

GC SERIES

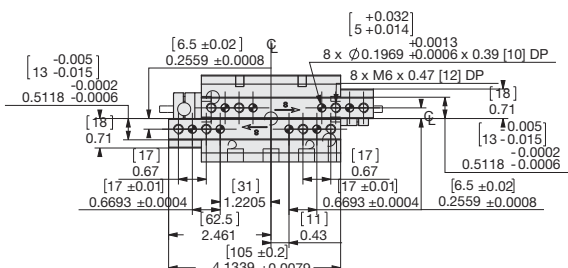
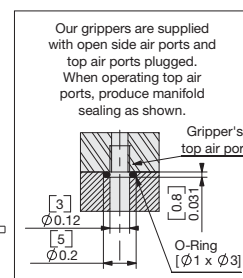
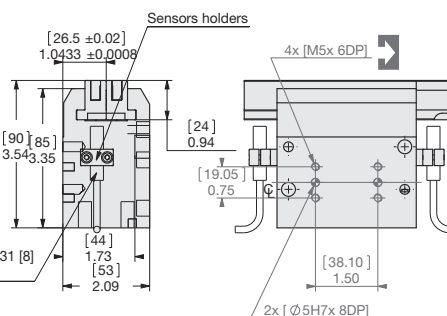
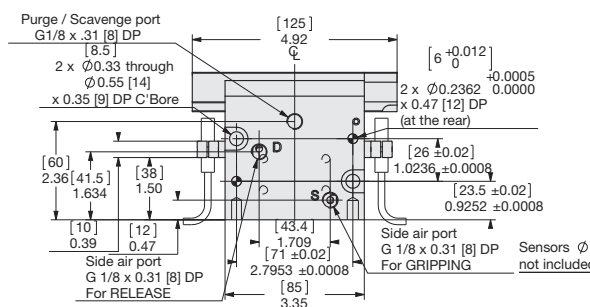
1.190



Specifications

	DGC-65	
Total Rated Grip Force F @ 100 psi, 7 bar*	179 lbs.	796 N
Stroke	1.575 in	40 mm
Weight	2.87 lbs.	1.30 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore ϕ	1.85 in.	47 mm
Displacement	3.78 in ³	62 cm ³
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.35 sec.	0.35 sec.
Accuracy	± 0.0009 in.	± 0.02 mm
Repeatability	± 0.0004 in.	± 0.01 mm.
Valve required to actuate single acting	3-way 2-position	
Valve required to actuate double acting	4-way, 2-position	

*With springs.



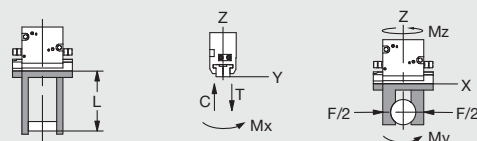
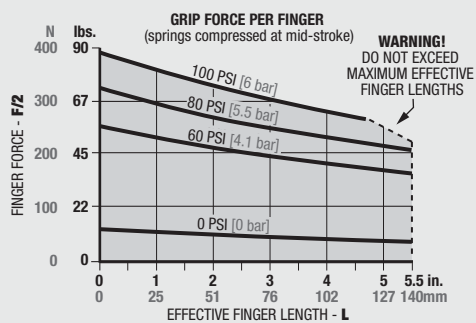
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ± 0.0005 " or [± 0.13 mm]
Metric Threads Course Pitch	Imperial in. 0.00 = $\pm .01$ 0.000 = $\pm .005$ 0.0000 = $\pm .0005$	Metric [mm] [0.] = [$\pm .25$] [0.0] = [$\pm .13$] [0.00] = [$\pm .013$]

NOTE:
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.

Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")

Loading Information



Loading Capacity [†]	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile T	61 lbs.	270 N	12 lbs.	54 N
Maximum Compressive C	69 lbs.	305 N	14 lbs.	61 N
Maximum Moment M_x	35 in.-lbs.	4 Nm	9 in.-lbs.	1 Nm
Maximum Moment M_y	89 in.-lbs.	10 Nm	22 in.-lbs.	2.5 Nm
Maximum Moment M_z	150 in.-lbs.	17 Nm	38 in.-lbs.	4.25 Nm

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

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

BASIC MODEL

DGC-65-V

SIZE VITON® SEALS

SENSOR ACCESSORIES

8mm PNP Inductive Sensor with Qk Disconnect*	OISP-011	1 or 2
8mm NPN Inductive Sensor with Qk Disconnect*	ONSN-011	1 or 2
Quick Disconnect 2 Meter Cable*	CABL-010	1 or 2
Quick Disconnect 5 Meter Cable*	CABL-013	1 or 2

PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	SLKT-323	1
Viton® Seal Repair Kit	SLKT-323V	1

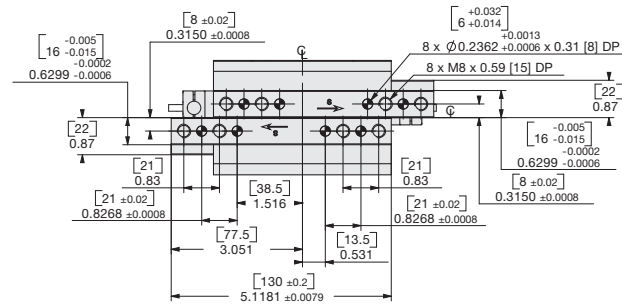
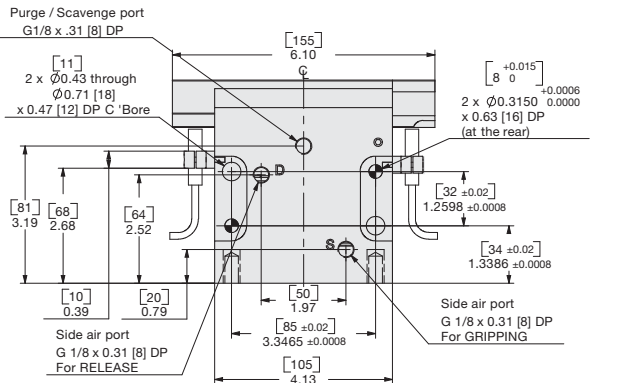
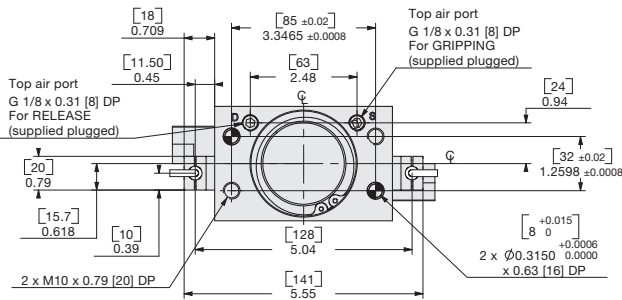
*Sensor and cable sold separately.



PARALLEL GRIPPER GC-85 TWO JAW PRECISION SPRING ASSIST

GC SERIES

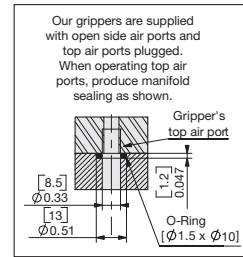
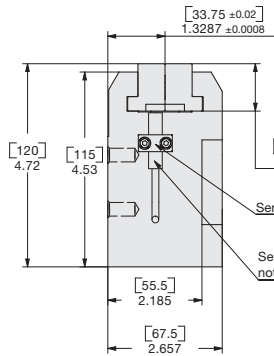
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Specifications

	GC-85	1480 N
Total Rated Grip Force F @ 100 psi, 7 bar*	333 lbs.	1480 N
Stroke	1.968 in.	50 mm
Weight	4.85 lbs.	2.20 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore Φ	2.36 in.	60 mm
Displacement	8.30 in ³	136 cm ³
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.5 sec.	0.5 sec.
Accuracy	± 0.0009 in.	± 0.02 mm
Repeatability	± 0.0004 in.	± 0.01 mm.
Valve required to actuate single acting . . .	3-way 2-position	
Valve required to actuate double acting . . .	4-way, 2-position	

*With springs.



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

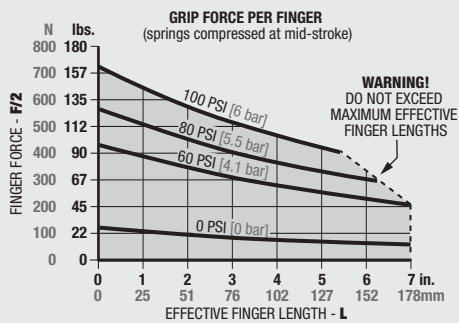
Dimensions are symmetrical about centerline	Third Angle Projection	All Dowel Holes are SF (Slip Fit). Locational Tolerance ± 0.0005 " or ± 0.013 mm]
Metric Threads Course Pitch	Imperial in. 0.00 = ± 0.01 0.000 = ± 0.005 0.0000 = ± 0.0005	Metric [mm] [0.] = $\pm .25$ [0.0] = $\pm .13$ [0.00] = $\pm .013$

NOTE:
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.

Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")

Loading Information

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



BASIC MODEL

GC - 85 - V

SIZE VITON® SEALS

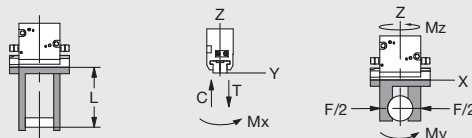
SENSOR ACCESSORIES

8mm PNP Inductive Sensor with Qk Disconnect*	OISP-011	1 or 2
8mm NPN Inductive Sensor with Qk Disconnect*	OISN-011	1 or 2
Quick Disconnect 2 Meter Cable*	CABL-010	1 or 2
Quick Disconnect 5 Meter Cable*	CABL-013	1 or 2

PNEUMATIC ACCESSORIES

Standard Seal Repair Kit	SLKT-325	1
Viton® Seal Repair Kit	SLKT-325V	1

*Sensor and cable sold separately.



Loading Capacity [†]	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile T	83 lbs.	370 N	17 lbs.	74 N
Maximum Compressive C	91 lbs.	405 N	18 lbs.	81 N
Maximum Moment M_x	53 in.-lbs.	6 Nm	13 in.-lbs.	1.5 Nm
Maximum Moment M_y	133 in.-lbs.	15 Nm	33 in.-lbs.	3.75 Nm
Maximum Moment M_z	239 in.-lbs.	27 Nm	60 in.-lbs.	6.75 Nm

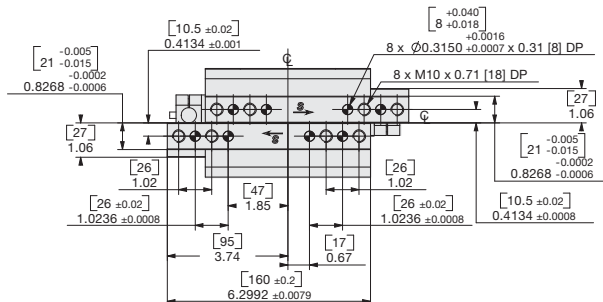
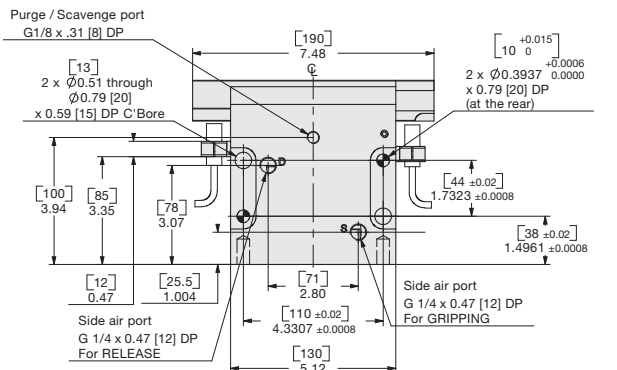
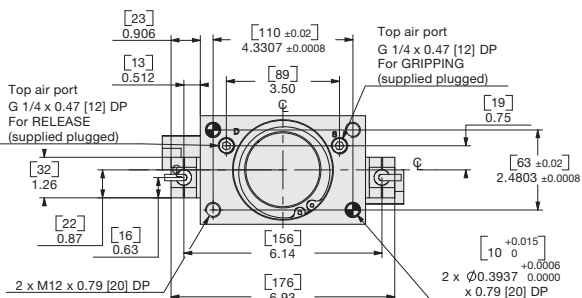
[†]Capacities are per set of jaws and are not simultaneous

DIRECTCONNECT™

PARALLEL GRIPPER GC-105 TWO JAW PRECISION SPRING ASSIST

GC SERIES

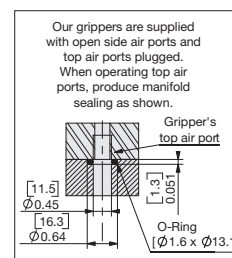
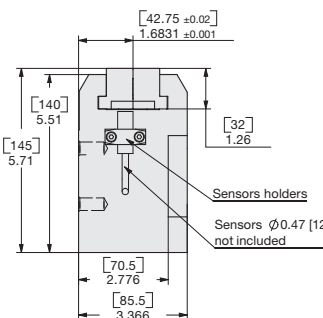
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Specifications

	GC-105	2318 N
Total Rated Grip Force F @ 100 psi, 7 bar*	521 lbs.	2318 N
Stroke	2.362 in.	60 mm
Weight	9.50 lbs.	4.31 kg
Pressure Range	45-100 psi	3-7 bar
Cylinder Bore \varnothing	2.99 in.	76 mm
Displacement	15.93 in ³	261 cm ³
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.7 sec.	0.7 sec.
Accuracy	±0.0009 in.	±0.02 mm
Repeatability	±0.0004 in.	±0.01 mm.
Valve required to actuate single acting . . .	3-way 2-position	
Valve required to actuate double acting . . .	4-way, 2-position	

*With springs.



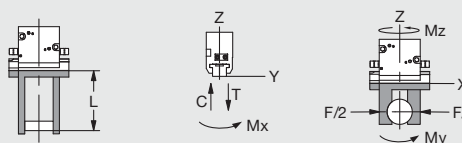
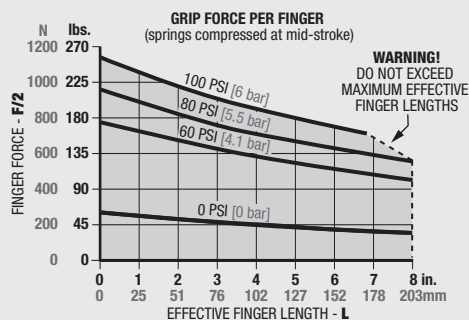
UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

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

NOTE:
To benefit from safety springs power, on open or on close, gripper must always be operated with "S" for GRIPPING and with "D" for RELEASE.

Drawing hereafter shows gripper gripping at the end of stroke (inlet through "S")

Loading Information



Loading Capacity [†]	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile T	93 lbs.	415 N	19 lbs.	83 N
Maximum Compressive C	102 lbs.	455 N	20 lbs.	91 N
Maximum Moment M_x	71 in.-lbs.	8 Nm	18 in.-lbs.	2 Nm
Maximum Moment M_y	168 in.-lbs.	19 Nm	42 in.-lbs.	4.75 Nm
Maximum Moment M_z	354 in.-lbs.	40 Nm	89 in.-lbs.	10 Nm

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

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

BASIC MODEL

GC-105-V

SIZE VITON® SEALS

SENSOR ACCESSORIES

- 12mm PNP Inductive Sensor with Qk Disconnect*
- 12mm NPN Inductive Sensor with Qk Disconnect*
- Quick Disconnect 2 Meter Cable*
- Quick Disconnect 5 Meter Cable*

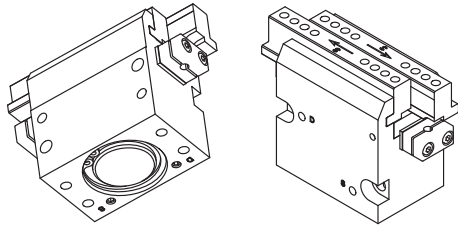
ORDER #	QTY/UNIT
OISP-017	1 or 2
OISN-017	1 or 2
CABL-014	1 or 2
CABL-018	1 or 2

PNEUMATIC ACCESSORIES

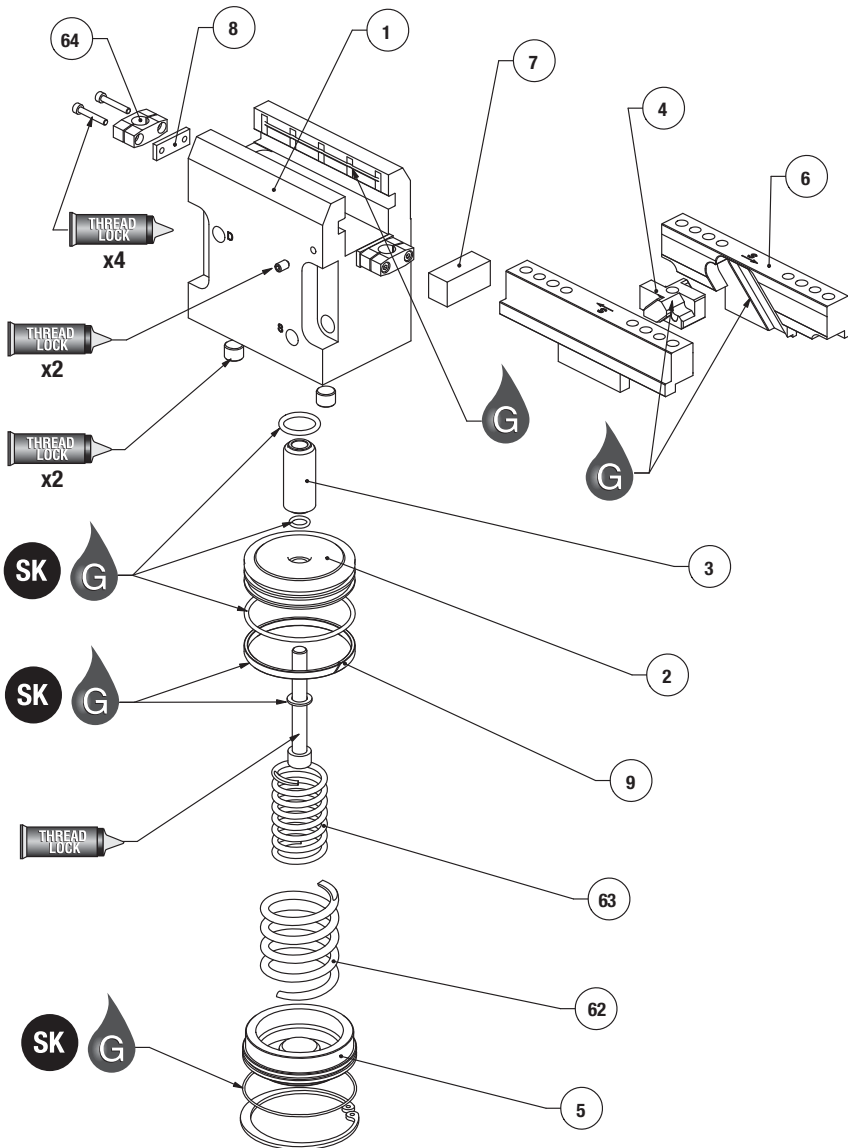
- Standard Seal Repair Kit
- Viton® Seal Repair Kit

SLKT-327	1
SLKT-327V	1

*Sensor and cable sold separately.



Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Piston Shaft
04	1	Double Wedge
05	1	Cap
06	2	Jaw Holder
07	1	Cover
08	2	Spacer
09	1	Piston Guidance Tape
62	1	Outer Spring
63	1	Inner Spring



NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.

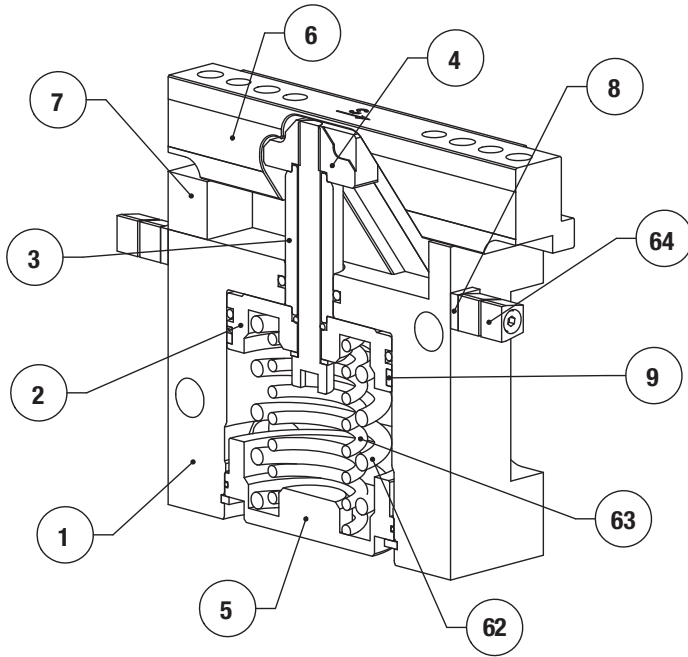
Assembly Procedure

- 1) Lubricate and install the seals into cap (x1) and body (x1)
- 2) If rear inlets are used, clear them and plug the side inlets on the body (#1)
- 3) Lubricate the slot of jaws (#6), the double wedge (#4), and the slot of the body (#1).
- 4) Place the double wedge between the two jaws and then introduce the jaws in the slots of the body.
- 5) Assemble the piston:
DGC-25 & DGC-65 (not shown): lubricate and install the seal onto the one piece piston (#3) Insert the piston into the body, locate it on the double wedge, place the seal ring under the screw cap and screw all the pieces together.
GC-85 (not shown): Insert the shaft (#3) into the body and center it in the double wedge. Lubricate and insert the seals on the piston (#2). Insert the piston into the body while centering on the shaft. Place the seal ring under the screw cap and screw all the pieces together.
GC-105: Insert the shaft (#3) into the body and center it in the double wedge. Lubricate and insert the seals and the guidance ring (#9) on the piston (#2). Insert the piston into the body while centering on the shaft. Place the seal ring under the screw cap and screw all the pieces together.
- 6) Make by hand the piston move into the body
- 7) Insert the two springs (#62 & 63) into the counterbore of the piston
- 8) Install the cap (#5) and fix it with the retaining ring.
- 9) Place and fix the wiper (#7) in the body.
- 10) Mount the sensor holder (#64) and the spacer (#8) on the body sides

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

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

DGC/GC SERIES ASSEMBLED VIEW



Item	Qty	Name
01	1	Body
02	1	Piston
03	1	Piston Shaft
04	1	Double Wedge
05	1	Cap
06	2	Jaw Holder
07	1	Cover
08	2	Spacer
09	1	Piston Guidance Tape
62	1	Outer Spring
63	1	Inner Spring

NOTE: Contact the Robohand Sales Department for a complete spare parts list with order numbers and prices.



Seal Kit
Items



Thread
Locker



Krytox™
Lubricant



Lightweight
Machine Oil



Teflon™ Based
Grease



Super
Bonder



Third Angle
Projection



DESIGN NOTES

GC SERIES

1.195

