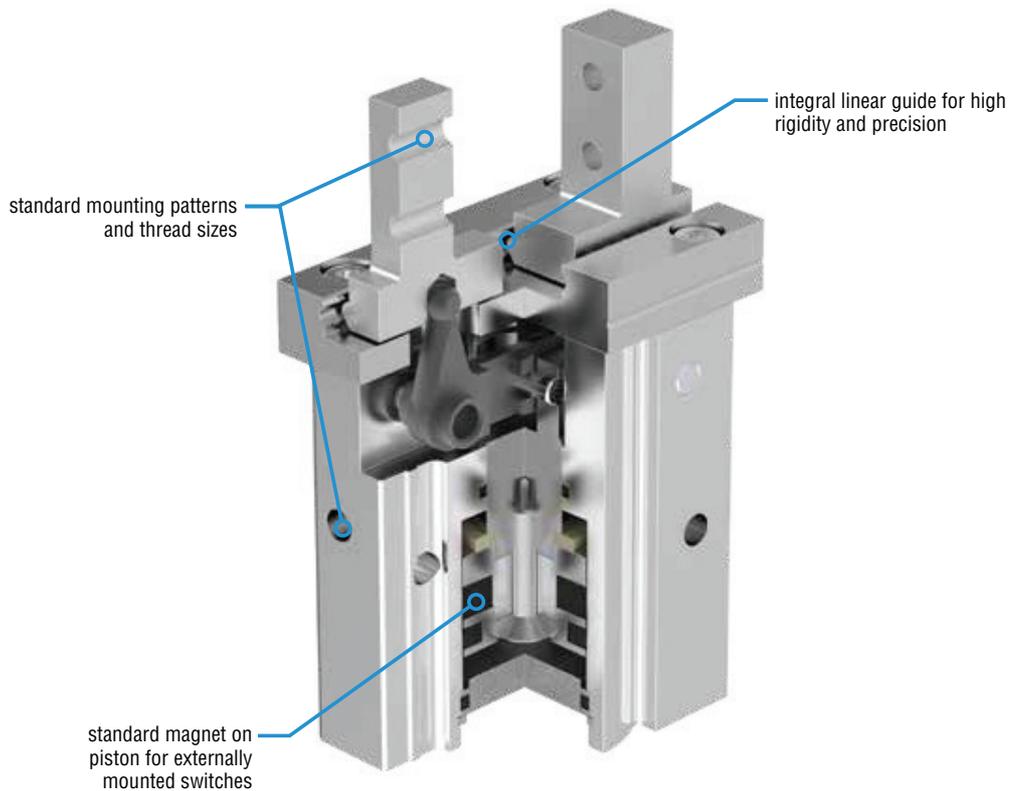


# PNEUMATIC MINIATURE PARALLEL GRIPPER

## OGZ

### Major Benefits

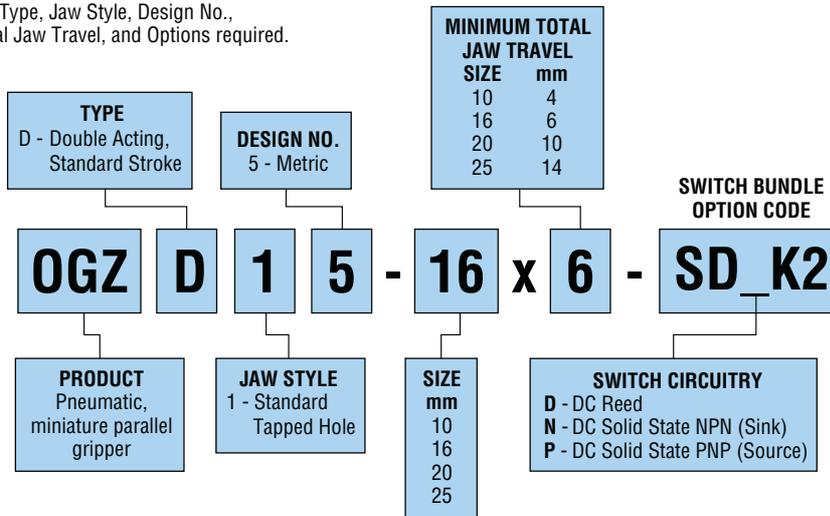
- Available in 4 sizes
- Integral linear guide for high rigidity and precision
- Base dowel mounting for accurate locating
- Standard magnets on pistons for externally mounted switches
- Drop-in replacement for other manufacturers



# ORDERING DATA: Series OGZ Grippers

## TO ORDER SPECIFY:

Product, Type, Jaw Style, Design No.,  
Size, Total Jaw Travel, and Options required.



## NOTES:

- 1) Switch bundle option includes 2 switches
- 2) Switch bundle available with actuator only
- 3) Switches available in quick connect only
- 4) Magnets standard for switch sensing
- 5) Only use PHD's switches with actuator

## CORDSETS

PART NO.	DESCRIPTION
63549-02	2 m [78.74 in]
63549-05	5 m [196.85 in]

Includes one cordset

## SWITCHES

PART NO.	DESCRIPTION
86725-0	Reed DC 5-30 V, 50 mA, Quick Connect
86726-0	Sink Type (NPN), DC 5-30 V, 50 mA, Quick Connect
86727-0	Source Type (PNP), DC 5-30 V, 50 mA, Quick Connect

Includes one switch

## CAD & Sizing Assistance

Use PHD's free online Product Sizing and CAD Configurator at [phdinc.com/myphd](http://phdinc.com/myphd)

# ENGINEERING DATA: Series OGZ Grippers

SPECIFICATIONS	SERIES OGZ GRIPPER			
	OGZD15-10x4	OGZD15-16x6	OGZD15-20x10	OGZD15-25x14
BORE SIZE (mm)	10	16	20	25
JAW TRAVEL (mm)	4	6	10	14
PORT SIZE	M3	M5		
OPERATING PRESSURE (bar [psi])	2-7 [29.0-101.5]		1-7 [14.5-101.5]	
OPERATING TEMPERATURE	-10 - 60°C [14 - 140°F]			
REPEATABILITY (mm [in])	±0.01 [±0.0004]			
CLOSE/OPEN TIME AT 6 bar (sec)	0.030 / 0.025	0.055 / 0.040	0.100 / 0.060	
RATED LIFE	3 million cycles			
LUBRICATION	Factory lubricated for rated life			
UNIT WEIGHT (g [lb])	55 [0.12]	125 [0.28]	250 [0.55]	460 [1.01]

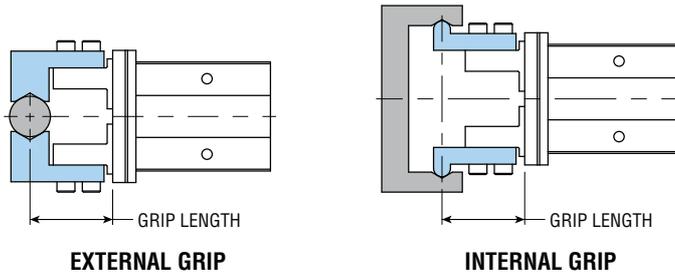
SIZE	RECOMMENDED MOUNTING TORQUES							
	BODY THREADS		BOTTOM THREADS		SIDE THREADS		JAW THREADS	
	Nm	in-lb	Nm	in-lb	Nm	in-lb	Nm	in-lb
OGZD15-10x4	1.7	15	1.7	15	1.7	15	0.8	7
OGZD15-16x6	2.8	25	2.8	25	2.8	25	1.8	15
OGZD15-20x10	4.5	40	4.5	40	4.5	40	2.8	25
OGZD15-25x14	9	80	9	80	9	80	4.5	40

COMPONENT	MATERIAL			
	OGZD15-10x4	OGZD15-16x6	OGZD15-20x10	OGZD15-25x14
BODY	Anodized Aluminum Alloy			
PISTON				
BORE PLUG	Stainless Steel			
PISTON ROD				
LEVER				
STOP PLATE				
JAW				
GUIDE				
FASTENERS				
LEVER DRIVER PIN	Carbon Steel			
LEVER PIVOT PIN				
DOWEL PIN				
BALLS	Bearing Steel			
ROD SEAL	NBR			
PISTON SEAL				
GASKET				
PLUG SEAL				
CUSHION PAD	Polyurethane			
PISTON EXTENSION	Stainless Steel	Anodized Aluminum Alloy		
RETAINING RING	Carbon Steel	Stainless Steel		

# ENGINEERING DATA: Series OGZ Grippers

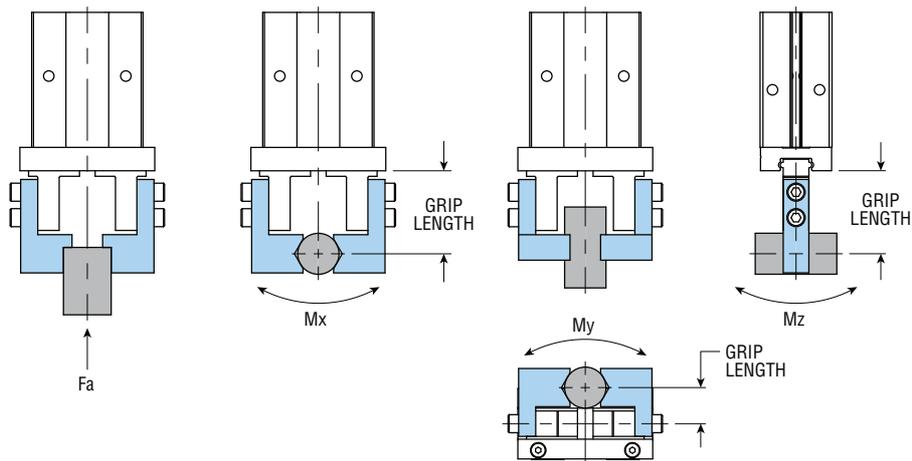
SIZE	GRIP FORCE*			
	EXTERNAL GRIP		INTERNAL GRIP	
	N	lbf	N	lbf
OGZD15-10x4	11	2.5	17	3.8
OGZD15-16x6	34	7.6	45	10.1
OGZD15-20x10	42	9.4	66	14.8
OGZD15-25x14	65	14.6	104	23.4

\*Effective grip force for each jaw  
Operating Pressure = 5 bar, Grip Length = 20 mm



SIZE	ALLOWABLE VERTICAL LOAD $F_a$		MAXIMUM ALLOWABLE MOMENTS					
	N	lbf	PITCH MOMENT $M_x$		YAW MOMENT $M_y$		ROLL MOMENT $M_z$	
			Nm	in-lb	Nm	in-lb	Nm	in-lb
OGZD15-10x4	58	13.0	0.26	2.3	0.26	2.3	0.53	4.7
OGZD15-16x6	98	22.0	0.68	6.0	0.68	6.0	1.36	12.0
OGZD15-20x10	147	33.0	1.32	11.7	1.32	11.7	2.65	23.5
OGZD15-25x14	255	57.3	1.94	17.2	1.94	17.2	3.88	34.3

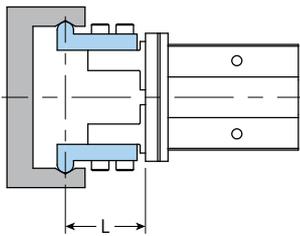
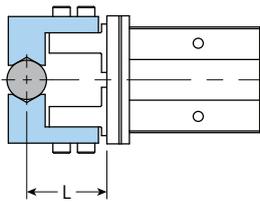
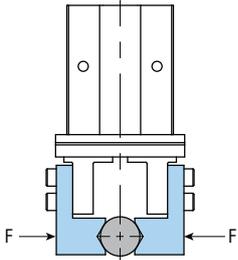
Load and moment values are static values.



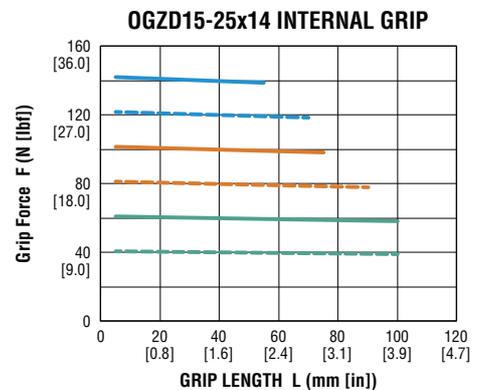
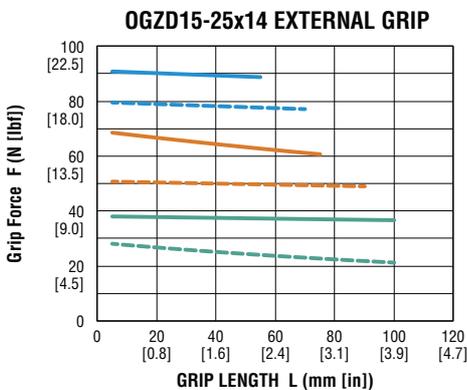
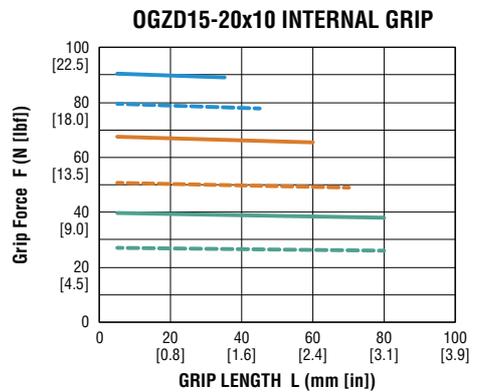
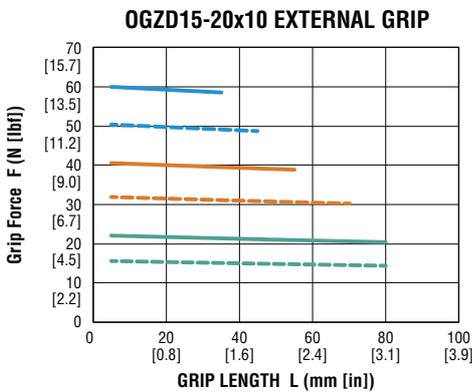
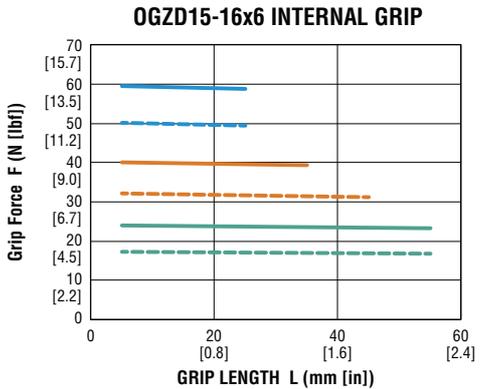
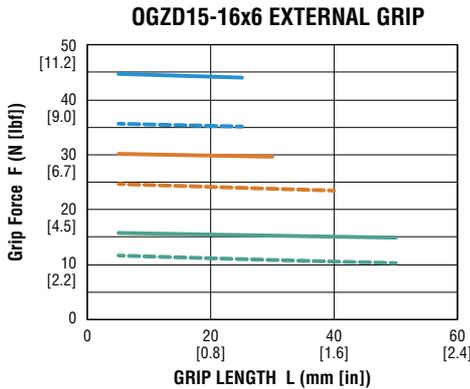
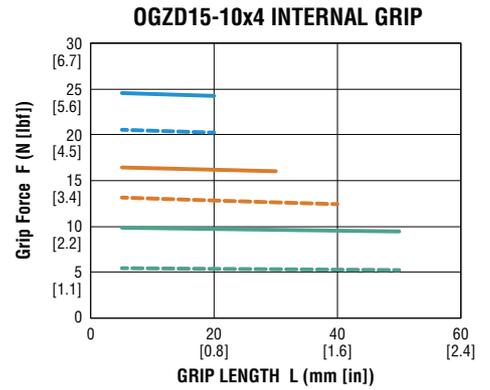
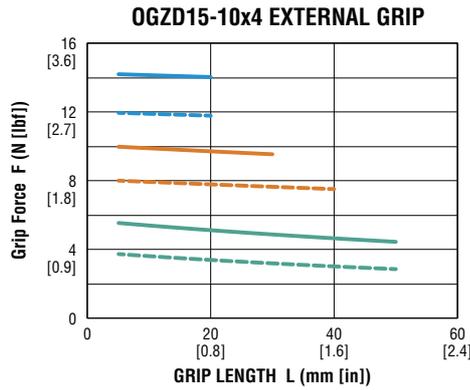
# ENGINEERING DATA: Series OGZ Grippers

## GRIP FORCE

The grip force  $F$  is shown in the graphs to the right and represents the force of one jaw with the workpiece in contact with both jaws and attachments. The total grip force is two times the grip force per jaw.



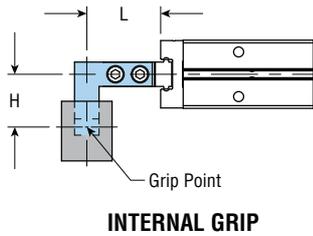
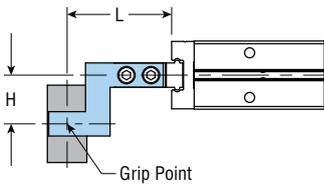
- at 7 bar [101.5 psi]
- - - at 6 bar [87.0 psi]
- at 5 bar [72.5 psi]
- - - at 4 bar [58.0 psi]
- at 3 bar [43.5 psi]
- - - at 2 bar [29.0 psi]



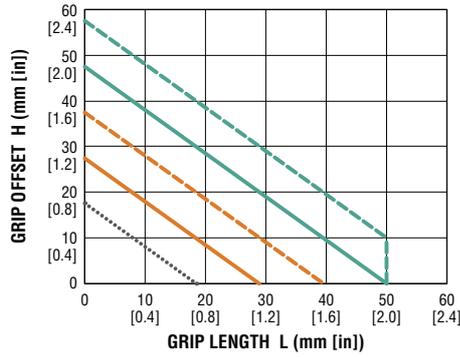
# ENGINEERING DATA: Series OGZ Grippers

## GRIP POINT

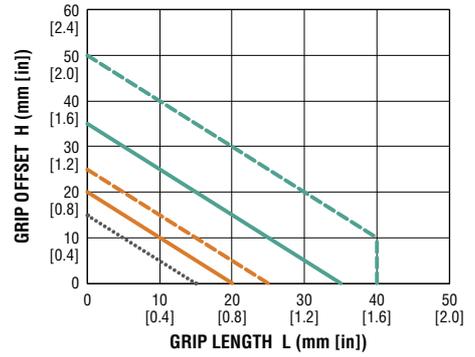
The grip length L and grip offset H must stay within the range for the operating pressure as shown in the graphs to the right. If the grip point exceeds the range limits, the life of the gripper will be reduced.



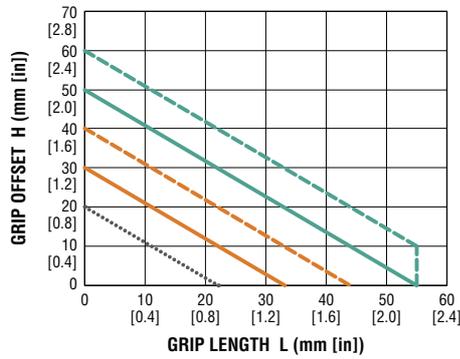
**OGZD15-10x4 EXTERNAL GRIP**



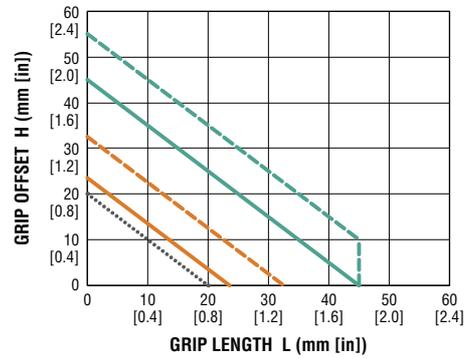
**OGZD15-10x4 INTERNAL GRIP**



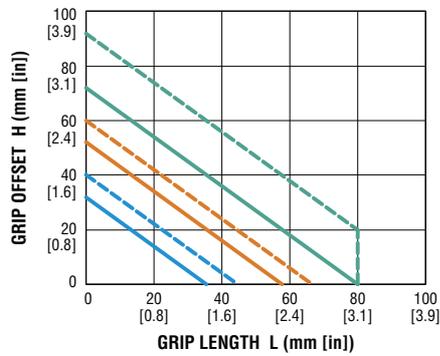
**OGZD15-16x6 EXTERNAL GRIP**



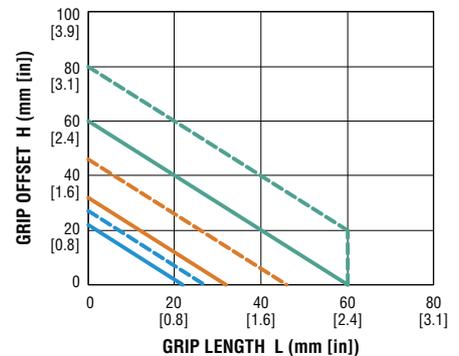
**OGZD15-16x6 INTERNAL GRIP**



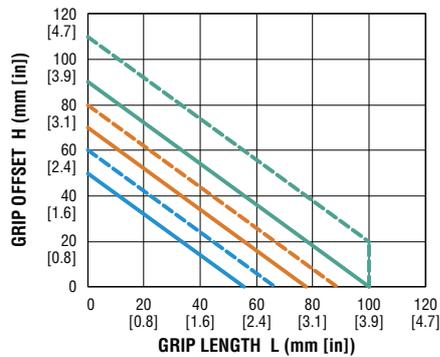
**OGZD15-20x10 EXTERNAL GRIP**



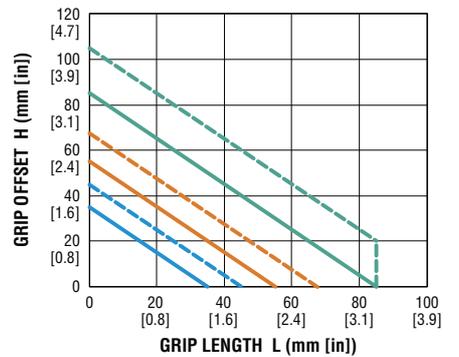
**OGZD15-20x10 INTERNAL GRIP**



**OGZD15-25x14 EXTERNAL GRIP**

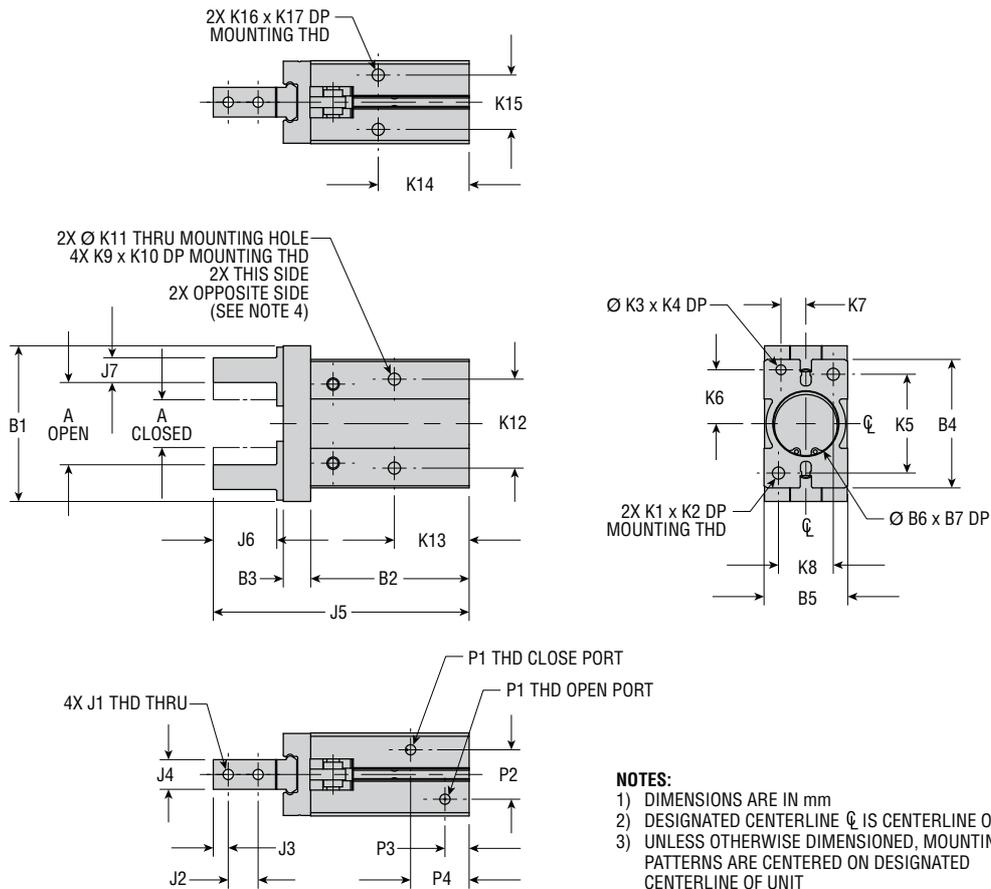


**OGZD15-25x14 INTERNAL GRIP**



- at 7 bar [101.5 psi]
- - - at 6 bar [87.0 psi]
- ..... at 6 & 7 bar
- at 5 bar [72.5 psi]
- - - at 4 bar [58.0 psi]
- at 3 bar [43.5 psi]
- - - at 2 bar [29.0 psi]

# DIMENSIONS: Series OGZ Grippers



- NOTES:**
- 1) DIMENSIONS ARE IN mm
  - 2) DESIGNATED CENTERLINE  $\phi$  IS CENTERLINE OF UNIT
  - 3) UNLESS OTHERWISE DIMENSIONED, MOUNTING HOLE PATTERNS ARE CENTERED ON DESIGNATED CENTERLINE OF UNIT
  - 4) SIDE MOUNTING THRU HOLES ARE NOT USABLE WHEN SWITCHES ARE USED IN SQUARE GROOVES

SIZE	A OPEN	A CLOSED	B1	B2	B3	B4	B5	B6	B7	J1	J2
OGZD15-10x4	15.2 +2.2/-0	11.2 +0/-0.7	29	37.8	6	23	16.4 ±0.05	11 H9	2	M2.5 x 0.45	5.7
OGZD15-16x6	20.9 +2.2/-0.2	14.9 +0/-0.7	38	42.5	7.5	30.6	23.6 ±0.05	17 H9	2	M3 x 0.5	7
OGZD15-20x10	26.3 +2.2/-0.2	16.3 +0/-0.7	50	52.8	9.5	42	27.6 ±0.05	21 H9	3	M4 x 0.7	9
OGZD15-25x14	33.3 +2.5/-0.2	19.3 +0/-0.8	63	63.6	11	52	33.6 ±0.05	26 H9	3.5	M5 x 0.8	12

SIZE	J3	J4	J5	J6	J7	K1	K2	K3	K4	K5	K6	K7
OGZD15-10x4	3	5 +0/-0.05	57	12	4 +0/-0.1	M3 x 0.5	6	2 H9	3	18	7.6 ±0.02	5.2 ±0.02
OGZD15-16x6	4	8 +0/-0.05	67.3	15	5 +0/-0.1	M4 x 0.7	8	3 H9	3	22	11 ±0.02	6.5 ±0.02
OGZD15-20x10	5	10 +0/-0.05	84.8	20	8 +0/-0.1	M5 x 0.8	10	4 H9	4	32	16.8 ±0.02	7.5 ±0.02
OGZD15-25x14	6	12 +0/-0.05	102.7	25	10 +0/-0.1	M6 x 1	12	4 H9	4	40	21.8 ±0.02	10 ±0.02

SIZE	K8	K9	K10	K11	K12	K13	K14	K15	K16	K17	P1 PORT	P2	P3	P4
OGZD15-10x4	12	M3 x 0.5	5.5	2.6	16	23	27	11.4	M3 x 0.5	6	M3 x 0.5	10	9	19
OGZD15-16x6	15	M4 x 0.7	8	3.4	24	24.5	30	16	M4 x 0.7	4.5	M5 x 0.8	13	8.5	19
OGZD15-20x10	18	M5 x 0.8	10	4.3	30	29	35	18.6	M5 x 0.8	8	M5 x 0.8	15	10	23
OGZD15-25x14	22	M6 x 1	12	5.1	36	30	36.5	22	M6 x 1	10	M5 x 0.8	20	9.7	23.5