

grippers

WBG Series

Wide Body Grippers



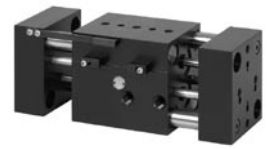
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Air-Oil Systems, Inc. www.airoil.com



Gripper Summary of Operation

WBG-Series utilizes four independent pistons to power the jaws open and closed. Jaws utilize a rack & pinion for synchronization which are independent from force rods and support rods. Non-Synchronous operation is available.

A. Body

High Strength, Anodized aluminum.

Ultra high gripping force to weight ratio.

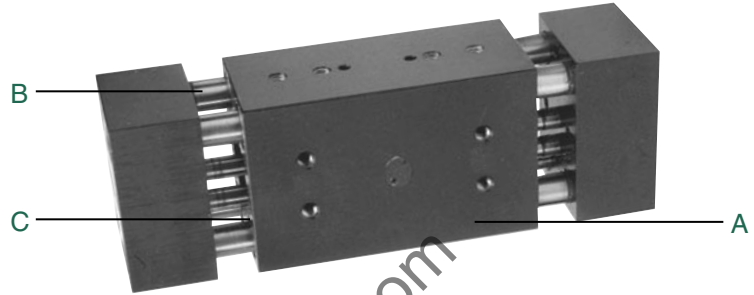
B. Support rods

Hardened steel support shafts are guided through the full width of the body. Wiper seals assist in keeping rods free of debris.

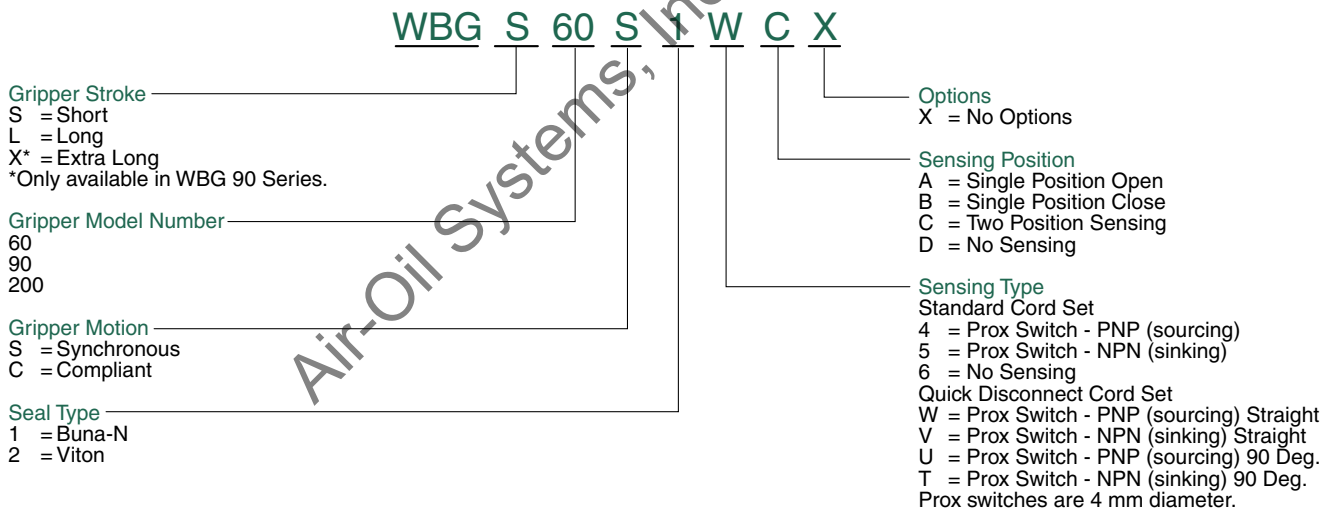
C. Seals

Piston seals are quad ring type for long service life.

- Units are permanently lubricated for non-lube air operation, allowing for OSHA regulations.
- Proximity switches are available to monitor open and closed position of the jaws.

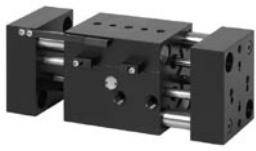


How to Order



When ordering additional switches

SWITCH DESCRIPTION	STANDARD PART NO.	QUICK DISCONNECT PART NO.
Prox Switch - PNP (Sourcing)	PX04PS	PX04PQ
Prox Switch - NPN (Sinking)	PX04NS	PX04NQ
Quick disconnect cable straight	—	PXCST
Quick disconnect cable 90 deg.	—	PXC90



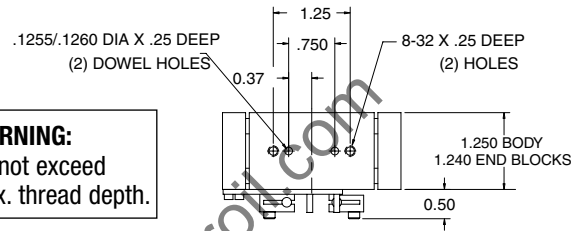
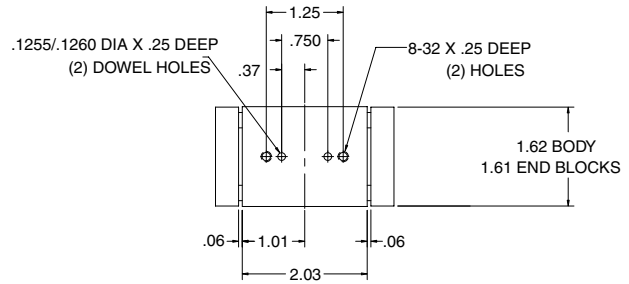
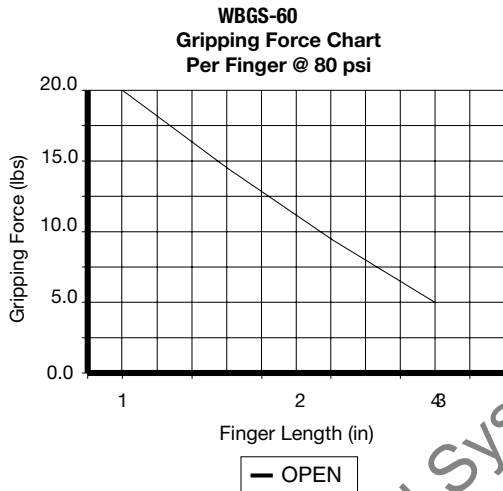
WBG Series Parallel Grippers

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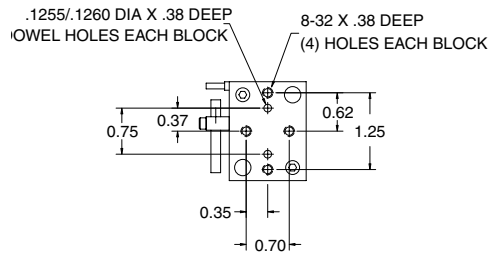
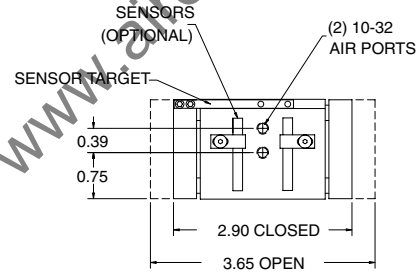
WBG S 60 Series

Specifications

	WBG S60
Grip Force @ 100 psi	60 lbs
Stroke	0.75 inch
Repeatability	+/- .001
Operating Temp.	
Buna-N	-30° to 180°F
Viton	-20° to 350°F
Max. Actuation Speed	0.3 sec
Displacement	0.29 cu in
Maximum Pressure	150 psi
Unit Weight	11oz



WARNING:
Do not exceed
max. thread depth.

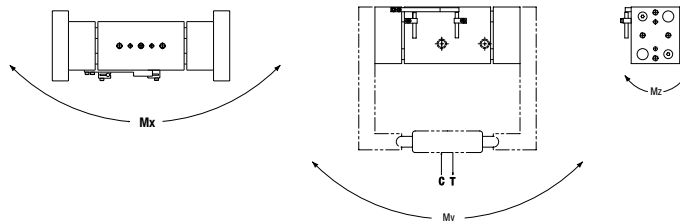


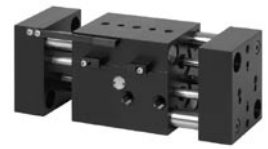
Static Condition

LOAD CAPACITY	WBG S60
C-compression	50 lbs.
T-tension	50 lbs.
Mx	100 in.-lbs.
My	125 in.-lbs.
Mz	100 in.-lbs.

Dynamic Condition

LOAD CAPACITY	WBG S60
C-compression	10 lbs.
T-tension	10 lbs.
Mx	20 in.-lbs.
My	30 in.-lbs.
Mz	20 in.-lbs.





WBG 90 Series

Dimensions

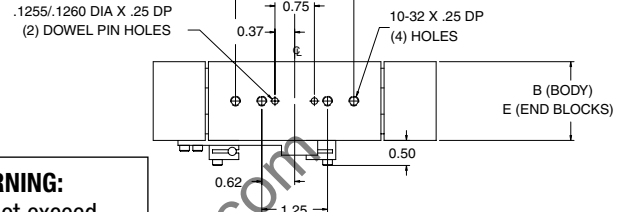
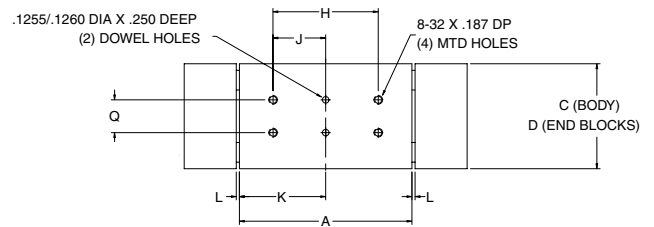
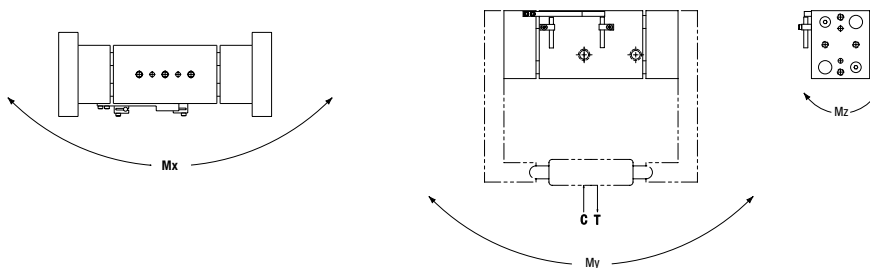
	WBG90	WBGL90	WBGX90
A	2.200	3.280	5.280
B	1.500	1.500	1.500
C	2.000	2.000	2.000
D	1.990	1.990	1.990
E	1.490	1.490	1.490
F	4.740	7.380	11.380
G	3.740	5.380	7.380
H	0.750	2.000	2.000
J	0.375	1.000	1.000
K	1.100	1.640	2.640
L	0.030	0.060	0.060
M	N/A	2.25	2.25
N	N/A	1.12	1.125
P	0.840	1.340	2.150
Q	0.750/0.7500 Dowels	0.625/0.6250 Dowels	0.625/0.625 Dowels

Specifications

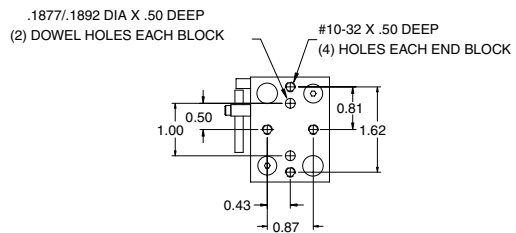
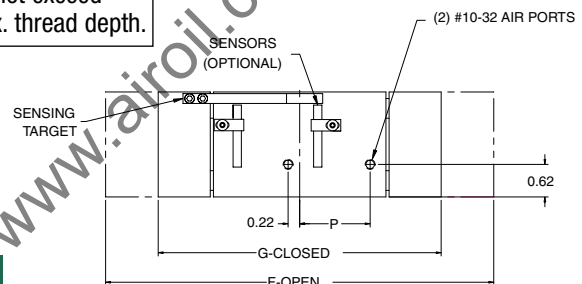
	WBG90	WBGL90	WBGX90
Grip Force @ 100 psi	90 lbs	90 lbs	90 lbs
Stroke	1.000	2.000	4.000
Repeatability	+/- 0.001	+/- 0.001	+/- 0.001
Operating Temp.			
Buna-N	-30° to 180°F	-30° to 180°F	-30° to 180°F
Viton	-20° to 350°F	-20° to 350°F	-20° to 350°F
Max. Actuation Speed	0.3 sec	0.3 sec	0.3 sec
Displacement	0.61 cu in	1.23 cu in	2.46 cu in
Maximum Pressure	150 psi	150 psi	150 psi
Unit Weight	1.3 lbs	2 lbs	3.2 lbs

Load Capacity

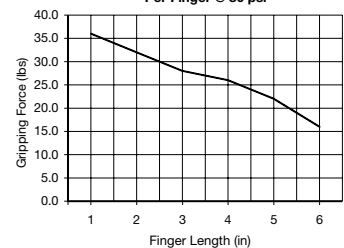
	STATIC CONDITION			DYNAMIC CONDITION		
	WBG90	WBGL90	WBGX90	WBG90	WBGL90	WBGX90
C-Compression	100 lbs	100 lbs	100 lbs	20 lbs	20 lbs	20 lbs
T-Tension	100 lbs	100 lbs	100 lbs	20 lbs	20 lbs	20 lbs
Mx	175 in.-lbs.	175 in.-lbs.	175 in.-lbs.	35 in.-lbs.	35 in.-lbs.	35 in.-lbs.
My	250 in.-lbs.	250 in.-lbs.	250 in.-lbs.	50 in.-lbs.	50 in.-lbs.	50 in.-lbs.
Mz	175 in.-lbs.	175 in.-lbs.	175 in.-lbs.	35 in.-lbs.	35 in.-lbs.	35 in.-lbs.



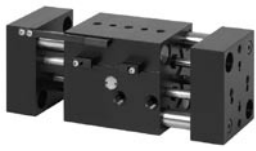
WARNING:
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max. thread depth.



WBG-90
Gripping Force Chart
Per Finger @ 80 psi



— OPEN



WBG Series Parallel Grippers

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WBG 200 Series

Dimensions

	WBG200	WBGL200
A	3.000	4.000
B	2.250	2.250
C	2.630	2.630
D	2.620	2.620
E	2.240	2.240
F	6.730	9.230
G	5.230	6.730
H	2.000	2.000
J	1.000	1.000
K	1.500	2.000
L	1.240	1.730

Specifications

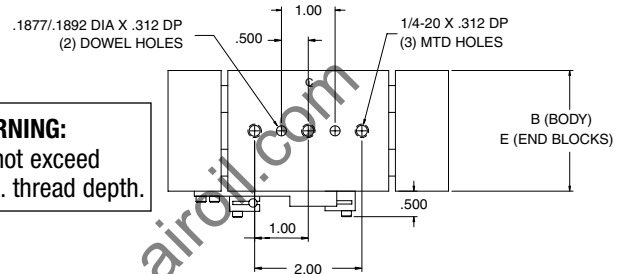
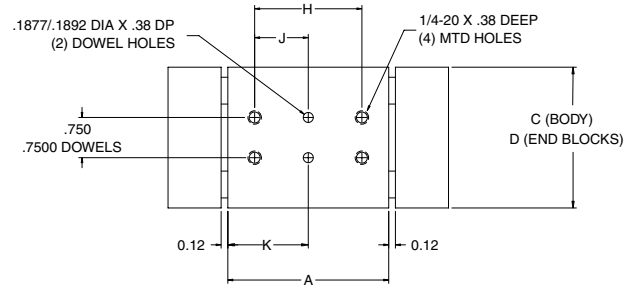
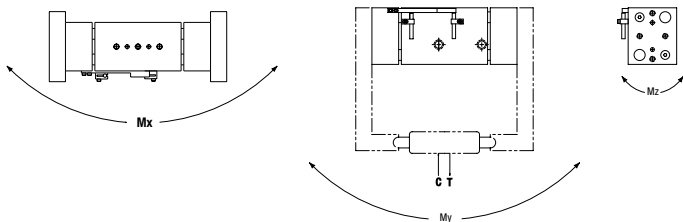
	WBG200	WBGL200
Grip Force @ 100 psi	150 lbs	150 lbs
Stroke	1.500	2.500
Repeatability	+/- 0.001	+/- 0.001
Operating Temp.		
Buna-N	-30° to 180°F	-30° to 180°F
Viton	-20° to 350°F	-20° to 350°F
Max. Actuation Speed	0.3 sec	0.3 sec
Displacement	1.80 cu in	3.00 cu in
Maximum Pressure	150 psi	150 psi
Unit Weight	3 lbs.	4 lbs.

Static Condition

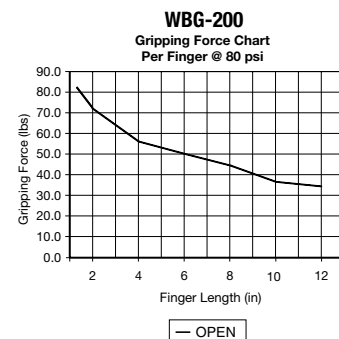
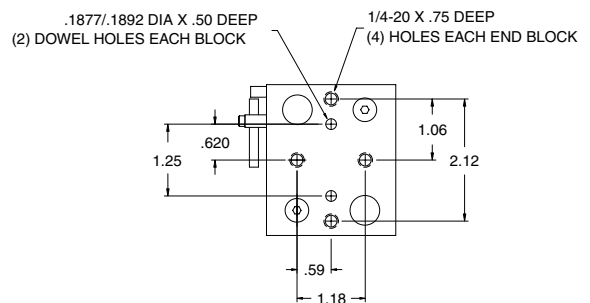
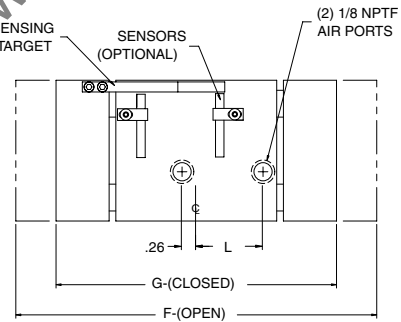
LOAD CAPACITY	WBG200	WBGL200
C-compression	500 lbs.	500 lbs.
T-tension	500 lbs.	500 lbs.
Mx	500 in.-lbs.	500 in.-lbs.
My	750 in.-lbs.	750 in.-lbs.
Mz	500 in.-lbs.	500 in.-lbs.

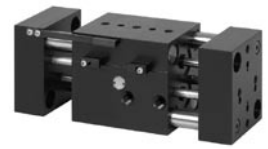
Dynamic Condition

LOAD CAPACITY	WBG200	WBGL200
C-compression	50 lbs.	50 lbs.
T-tension	50 lbs.	50 lbs.
Mx	50 in.-lbs.	50 in.-lbs.
My	75 in.-lbs.	75 in.-lbs.
Mz	50 in.-lbs.	50 in.-lbs.



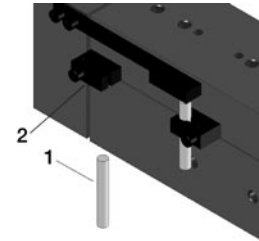
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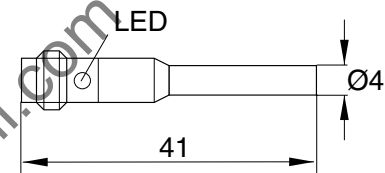
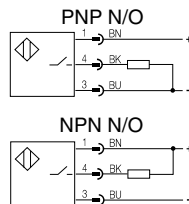
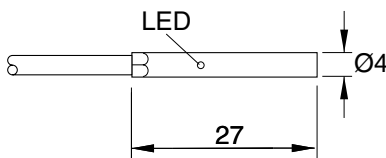
WBG Series Switch Information

SWITCH OR BRACKET DESCRIPTION	STANDARD PART NO.	QUICK DISCONNECT PART NO.
1 Prox Switch PNP	PX04PS	PX04PQ
1 Prox Switch NPN	PX04NS	PX04NQ
2 Switch Bracket	CT-500	CT-500



Prox Switch (NPN NO) Flying Lead - PX04NS
(PNP NO) Flying Lead - PX04PS

Prox Switch (NPN NO), 8 mm connector - PX04NQ
(PNP NO), 8 mm connector - PX04PQ



Sensing Data

Repeat accuracy R		≤5%
Ambient temperature range t_d	(°C)	-25...+70°C
Operating frequency f	(Hz)	1800
Utilization categories	(DC)	13
Function indication		YES

Electrical Data

Rated operational voltage U_e	(V)	24 DC
Supply voltage U_B	(V)	10...30 DC
Voltage drop U_d at I_e Stat./dyn.	(V)	≤3.0
Rated insulation voltage U_i	(V)	75 VDC
Load current capacity	(mA)	100
Current consumption	(mA)	≤10 / ≤3
Off-State Current I_r	(uA)	≤80
Protected against polarity reversal		YES
Short circuit protected		YES
Load Capacitance	(uF)	≤1.00

Mechanical Data

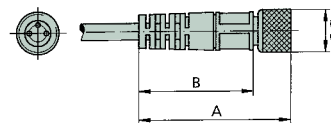
Degree of protection per IEC 529	IP 67
Housing material	stainless steel
Material of sensing face	POM
Connection	cable
No. of wires x gauge	3 x 26 AWG

Female Connectors for Reed Switches and Hall Effect Sensors

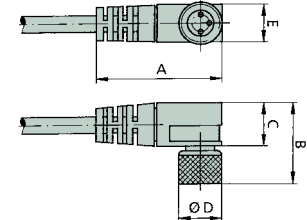
Dimensions (mm)

TYPE	ORDER CODE
Straight, 5 m Cable	PXCST
Elbow, 5 m Calbe	PXC90

Straight Type



Elbow Type



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