

TGP2 GRIPPERS

Pneumatic Sheet Metal Grippers

VISUAL SELECTION CATALOG

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Sheet Metal Grippers

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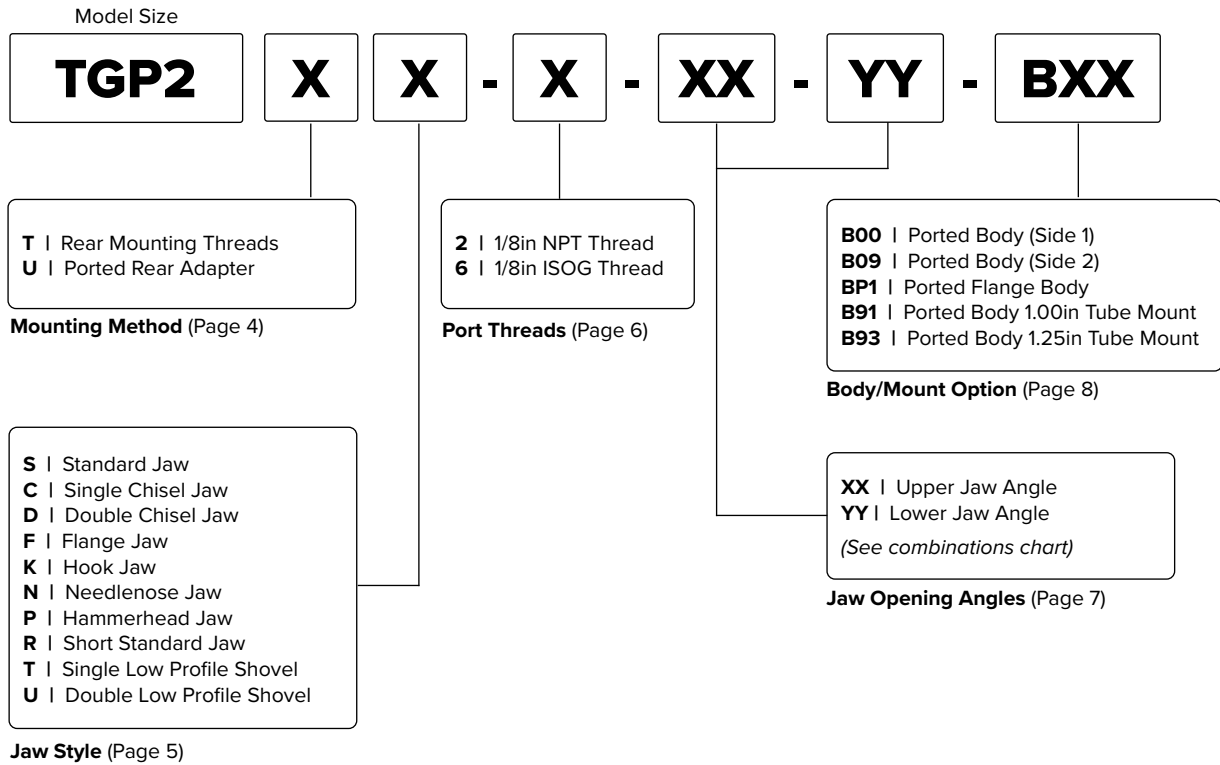


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The diagram below shows the breakdown for the ordering options needed to build the most basic TGP2 gripper. For other options and accessories such as fittings, sensors, and jaw tips, see **SECTION 2**.

For dimensions, please refer to the online configuration tool.



Gripper Configuration:
TGP2UU-2-45-12-B93-TADCR



Gripper Configuration:
TGP2TF-6-50-22-B00-TASCG-TBSDG



Gripper Configuration:
TGP2UN-2-30-15-BP1



TGP2

X

X

-

X

-

XX

-

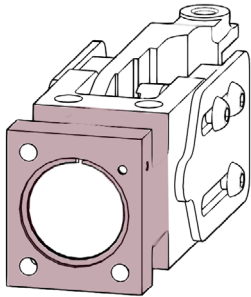
YY

-

BXX

For dependencies between mounting method and body/mount options, see [Table 1](#) in Appendix A.

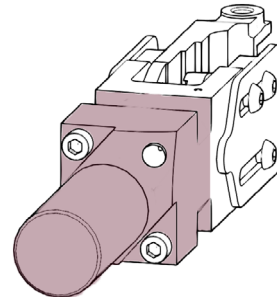
MOUNTING METHOD

T

Rear Mounting Threads*

Thread Size at M6 x 1.0 x 12mm

**Ports are on the body*

U

Ported Mounting Adapter*

Port Size is 1/8 NPT or 1/8 ISOG

**Ports are on the adapter*

To understand the definitions for the sides of the gripper body, see [Diagram 1](#) in Appendix A.

1

ORDERING OPTIONS

Sheet Metal Grippers | **Jaw Styles**

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TGP2

X

X

X

XX

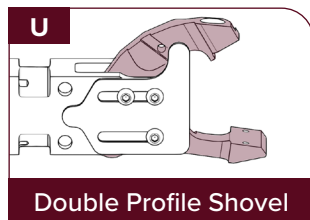
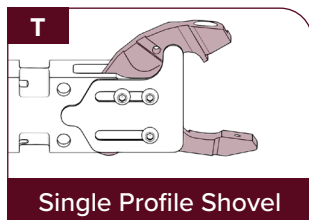
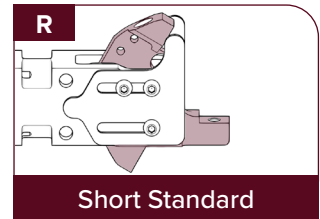
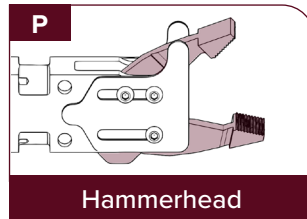
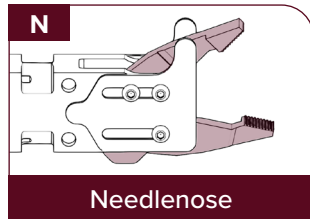
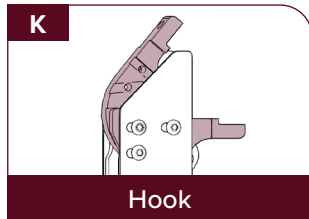
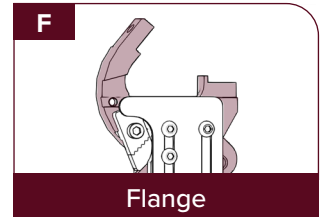
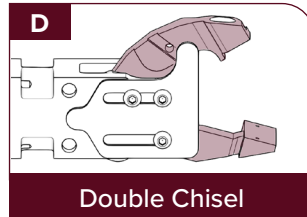
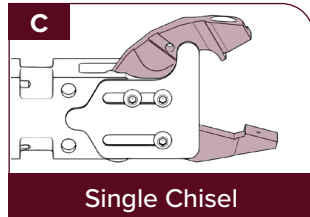
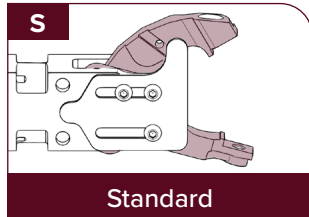
YY

BXX

For dependencies between jaw styles and upper and lower jaw angles, see see table in [Jaw Opening Angle](#) section.

For dependencies between jaw styles and upper and lower jaw tips, see see [Table 4](#) in Appendix A.

JAW STYLE OPTIONS





TGP2

X

X

X

XX

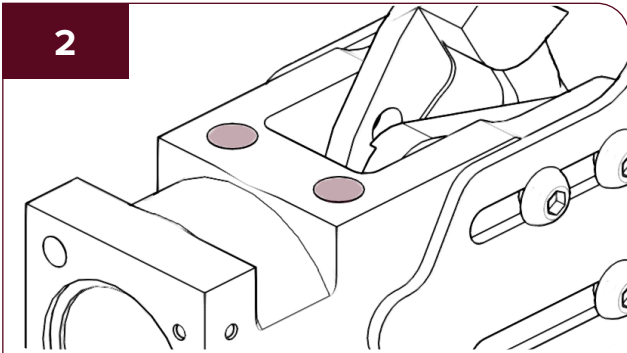
YY

BXX

For dependencies between port threads and fitting options, see [Table 2](#) in Appendix A.

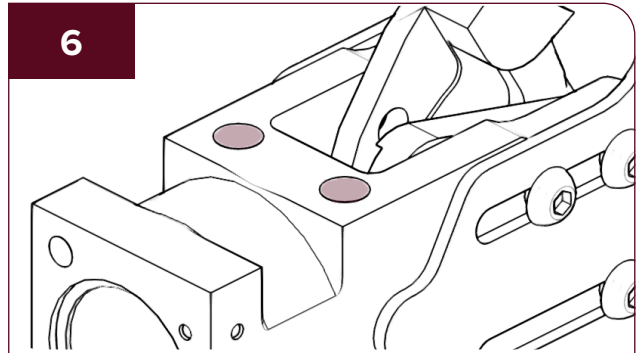
PORT THREAD OPTIONS

2



1/8 NPT Thread (Imperial Units)

6



1/8 ISOG Thread (Metric Units)

1

ORDERING OPTIONS

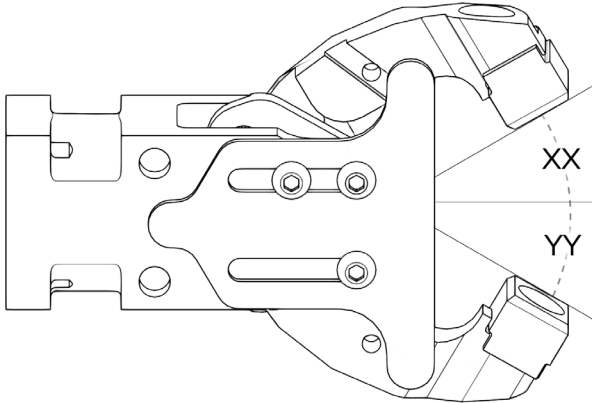
Sheet Metal Grippers | Jaw Opening Angles

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TGP2 X X - X - **XX** - **YY** - BXX

UPPER AND LOWER JAW OPENING ANGLES



Example of how to use the Jaw angle matrix to select the following valid configuration:

TGP2XS - X - 30 - 15 - ...

		Upper Jaw Angle (XX)°								
		00°	11°	12°	14°	15°	22°	25°	30°	35°
Angle (YY)°	00°			N, P		S, C, D, T, U	S, C, D, N, P, R, T, U		S, C, D, T, U	
	08°					T, U			T, U	
	11°		S, C, D							
	12°	N, P		N, P						
	14°									S, C, D
	15°	S, C, D				S, C, D				S, C, D
	20°						K			

		Upper Jaw Angle (XX)°													
		00°	11°	12°	14°	15°	22°	25°	30°	35°	45°	50°	60°	75°	85°
Lower Jaw Angle (YY)°	00°			N, P		S, C, D, T, U	S, C, D, N, P, R, T, U		S, C, D, T, U		S, C, D, N, P, R, T, U	F, K	R	S, C, D, N, P, T, U	F
	08°					T, U			T, U					T, U	
	11°		S, C, D												
	12°	N, P		N, P							N, P				
	14°								S, C, D						
	15°	S, C, D				S, C, D			S, C, D					S, C, D	
	20°							K							
	22°	S, N, P, R					S, C, D, N, P, R				S	F		N, P	
	30°	S			S	S			S						S
	35°									R					
	40°											K			
	45°	S, N, P, R		N, P			S, C, D				S, C, D, N, P, R				
	60°	R												R	
75°	S, C, D, N, P				S, C, D	N, P		S, C, D						S, C, D, N, P	

1

ORDERING OPTIONS

Sheet Metal Grippers | Body/Mount Options

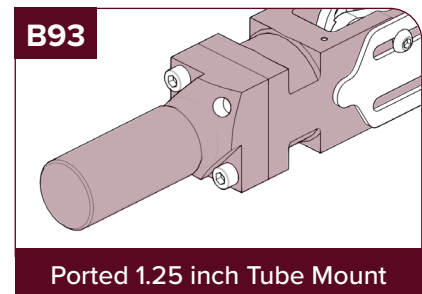
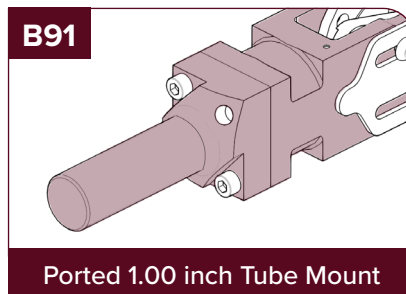
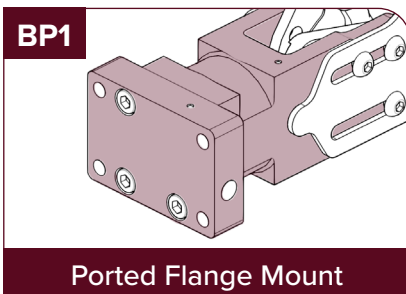
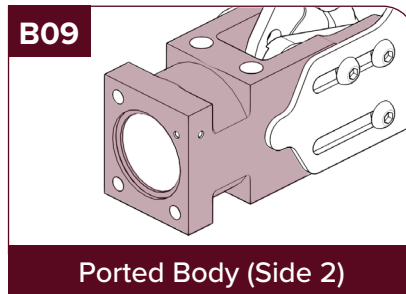
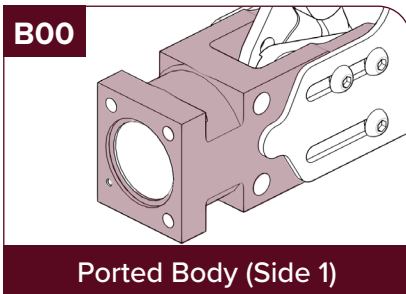
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TGP2 X X - X - XX - YY - BXX

For dependencies between mounting method and body/mount options, see [Table 1](#) in Appendix A.

BODY/MOUNT OPTIONS

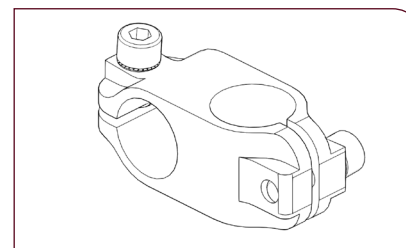


ADDITIONAL MOUNTING PRODUCTS

Tech-Effector Product Line (Sold Separately)



Compatible with **B00** / **B09**



Cross Clamps

TE-CC1513

TE-CC1313

TE-CC1310

TE-CC1510

TE-CC1010

TE-CC25M10E

TE-CC40M10E

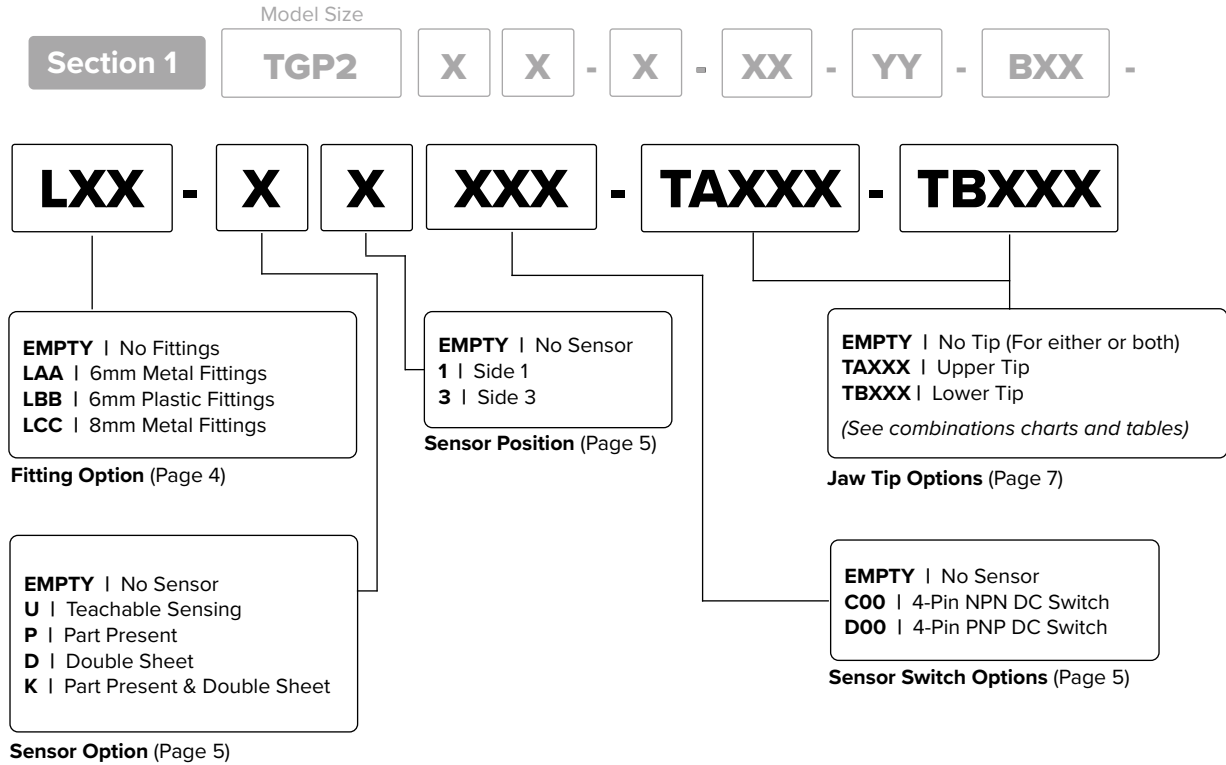
Compatible with **B93**

Compatible with **B91**



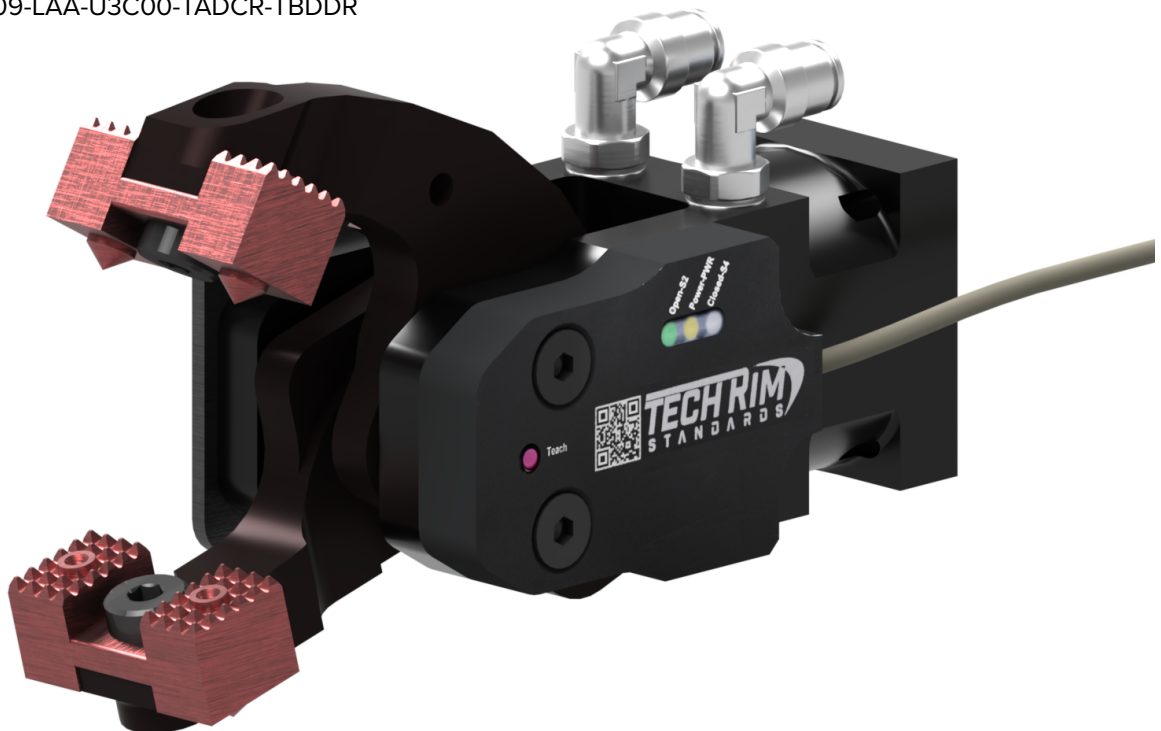
The diagram below shows the breakdown for the options and accessories available for the TGP2 gripper.

For dimensions, please refer to the online configuration tool.



Gripper Configuration:

TGP2TS-2-30-15-B09-LAA-U3C00-TADCR-TBDDR



2

OPTIONS & ACCESSORIES

Sheet Metal Grippers | Fitting Options

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LXX

- X

X

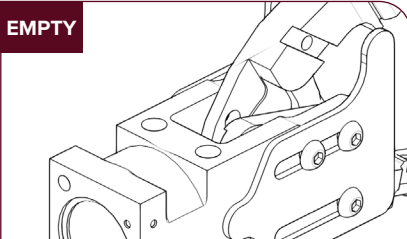
XXX

- TAXXX

- TBXXX

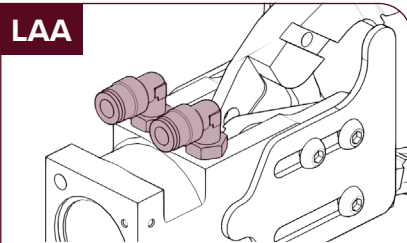
FITTING OPTION

EMPTY



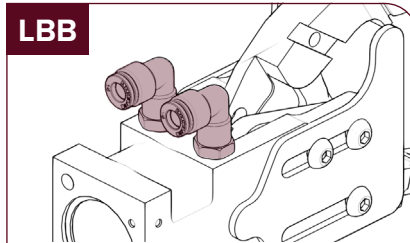
No Fittings

LAA



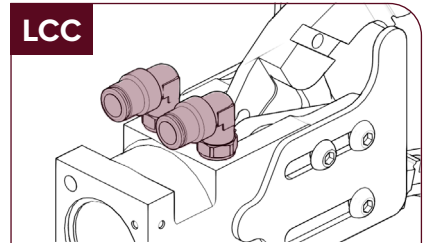
6mm / 1/4 inch Metal Fittings

LBB



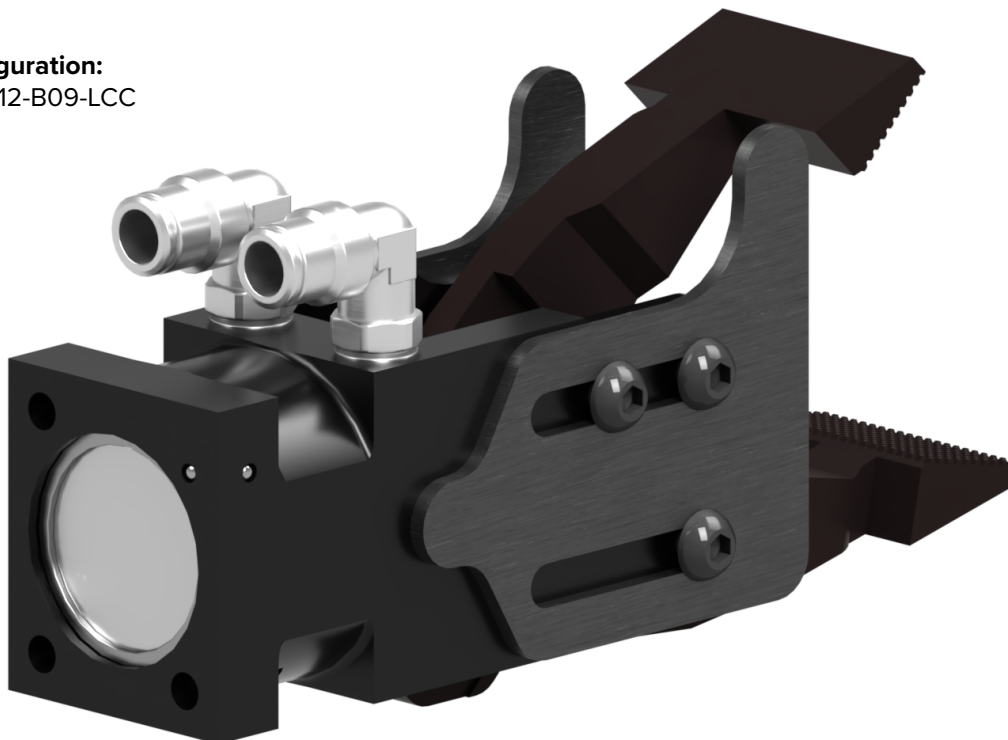
6mm / 1/4 inch Plastic Fittings

LCC



8mm / 5/8 inch Metal Fittings

Gripper Configuration:
TGP2TP-2-40-12-B09-LCC





LXX

-

X

X

XXX

-

TAXXX

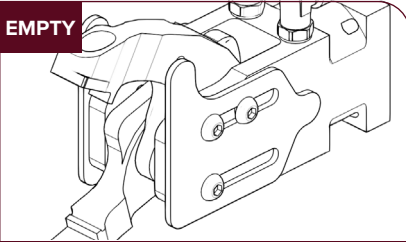
-

TBXXX

For dependencies between sensor option, sensor position, and switch option, see [Table 3](#) in Appendix A.

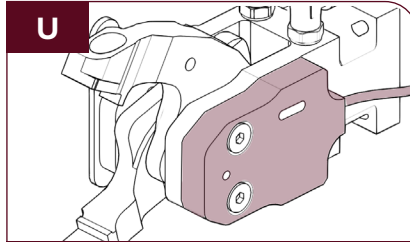
SENSOR OPTION

EMPTY



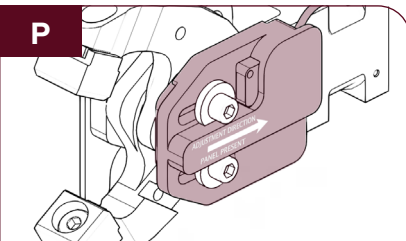
No Sensor

U



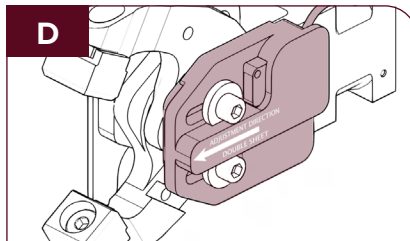
Teachable Sensor

P



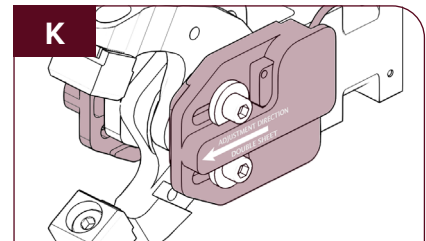
Part Present

D



Double Sheet

K



Part Present & Double Sheet

LXX

-

X**X**

XXX

-

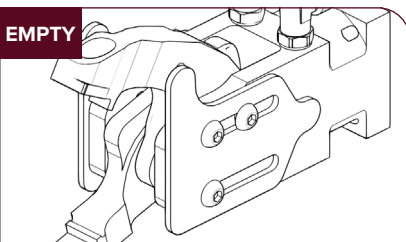
TAXXX

-

TBXXX

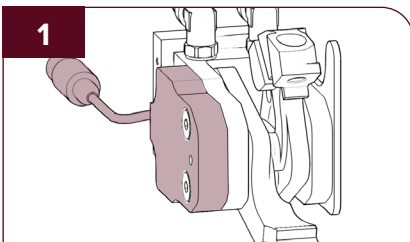
SENSOR POSITION

EMPTY



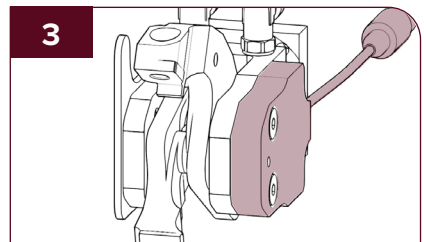
No Sensor

1



Side 1

3



Side 3

For dependencies between sensor options and sensor positions, see [Table 1](#) in Appendix A.



LXX

-

X

X

XXX

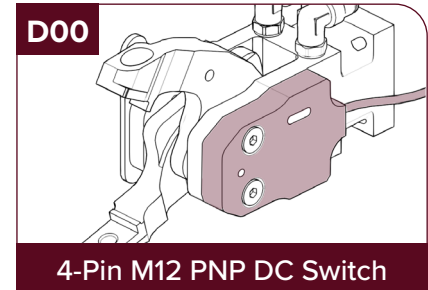
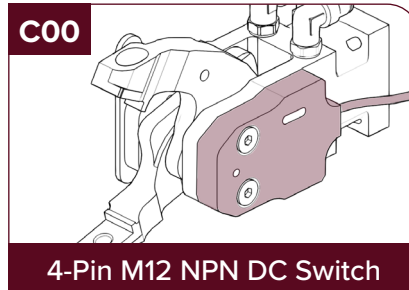
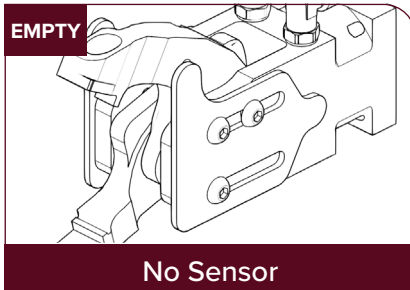
-

TAXXX

-

TBXXX

SENSOR SWITCH No visual difference between these options



For differences between the NPN and PNP sensor switch and M12 pinout, see [Diagram 2](#) in Appendix A.

TEACHABLE SENSOR OPEN & CLOSED POSITION LEARNING PROTOCOL

1. **Open** the gripper pneumatically.
2. Press and hold the *Teach* button for 3 seconds to enter learning mode. The **green LED** will blink.
3. Verify the learning state:
 - If “Open-S2” shows a **yellow LED**, continue.
 - If “Closed-S4” shows a **red LED**, press *Teach* again to switch states.
4. In the open learning state, hold the *Teach* button until the **yellow LED** blinks 3 times.
5. When learning is complete, the **green LED** will return to solid.
6. Place the desired piece between the jaws and **close** the gripper pneumatically.
7. Repeat steps 1–5 to teach the closed position, verifying that the gripper is in the closed learning state in step 3.





LXX

-

X

X

XXX

-

TAXXX

-

TBXXX

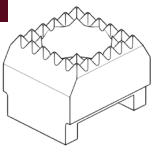
For this section, T(A)XXX refers to the upper jaw tip and T(B)XXX refers to the lower jaw tip. They are identical to one another, so they will be represented by T(x)XXX for the jaw tip listings.

For measurements of the different heights and thicknesses of each jaw tip family, see [Diagram 2](#) in Appendix A.

For dependencies between jaw style and tip options and upper tips and lower tips, see [Table 4](#) in Appendix A.

JAW TIPS

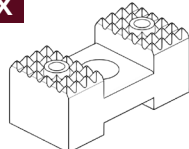
TxSDX



Single-Width Diamond Face

TxSDB
TxSDS
TxSDG
TxSDR

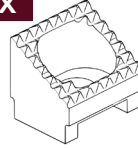
TxDDX



Double Width Diamond Face

TxDDB
TxDDS
TxDDG
TxDDR

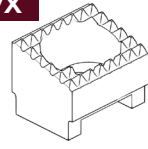
Tx00X



30° Diamond Face

Tx001
Tx002
Tx003
Tx004

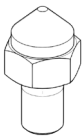
Tx07X



15° Diamond Face

Tx071
Tx072
Tx074
Tx075

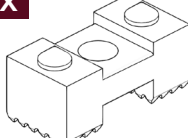
TxSCX



Single-Width Cone Face

TxSCB
TxSCS
TxSCG
TxSCR

TxDCX



Double-Width Cone Face

TxDCB
TxDCS
TxDCG
TxDCR

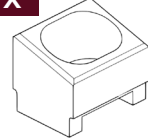
TxFOX



30° Smooth Face

TxF01
TxF02
TxF03
TxF04

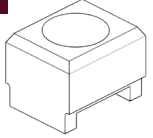
TxF7X



15° Smooth Face

TxF71
TxF72
TxF74
TxF75

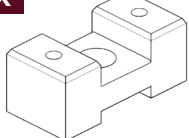
TxSDX



Single-Width Flat Face

TxSFB
TxSFS
TxSFG
TxSFR

TxDFX



Double Width Flat Face

TxDFB
TxDFS
TxDFG
TxDFR

Tx00X



Single-Width Socket Face

Tx005
Tx006
Tx007

Tx0XX



Double Width Ball Face

Tx008
Tx009
Tx010



TABLE 1 | DEPENDENCIES | MOUNTING STYLE AND BODY STYLE

Mounting Style	Body Style
T Rear Mounting Threads	B00 Side 1
	B09 Side 2
U Rear Air Ports	BP1 Rear Port Flange Body
	B91 Rear Port Body w/ 1.00 inch Tubing
	B93 Rear Port Body w/ 1.25 inch Tubing

Referenced in the [Mounting Style](#) section and the [Body Style](#) section.

DIAGRAM 1 | GRIPPER SIDES

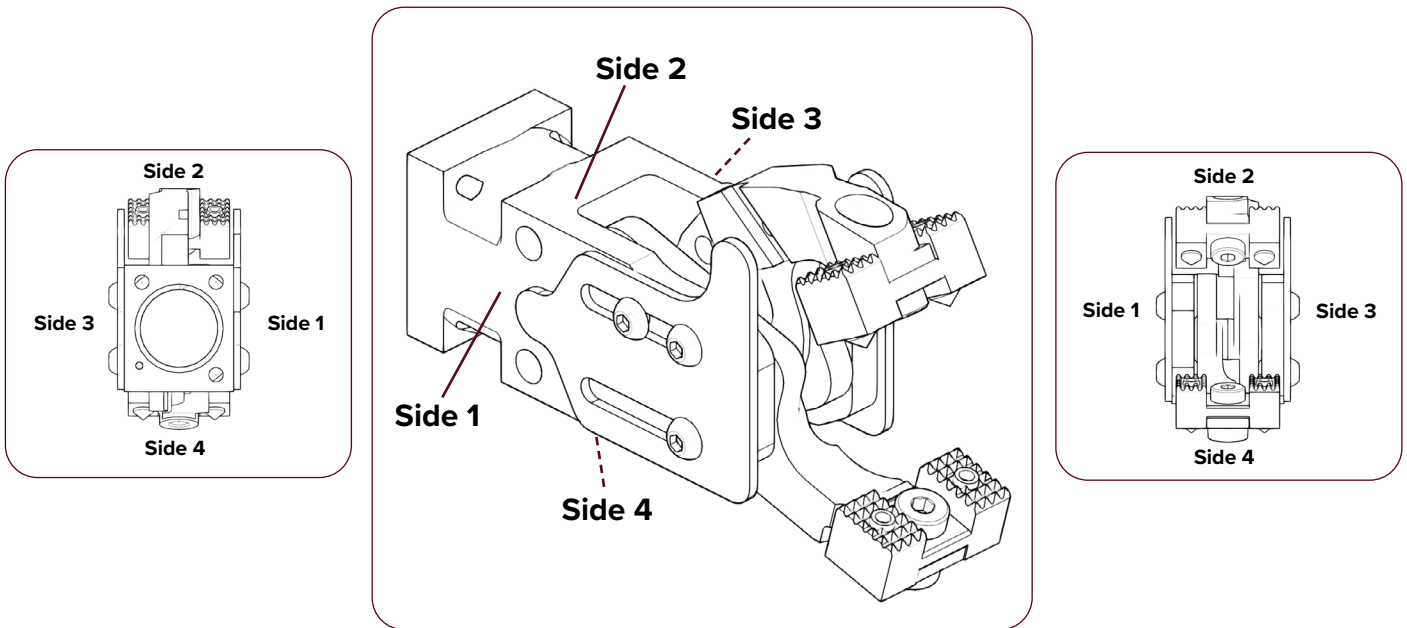


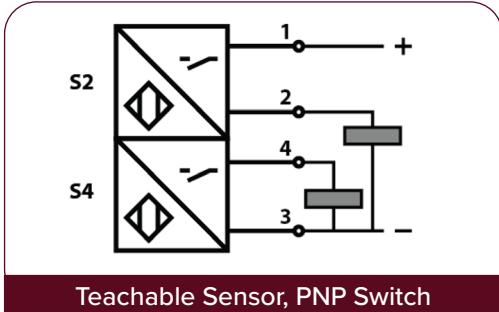
TABLE 2 | DEPENDENCIES | PORT THREADS AND FITTING OPTION

Port Threads	Fitting Option
2 NPT Thread (Imperial)	LAA 1/4 inch Metal Fittings
	LBB 1/4 inch Plastic Fittings
6 ISOG Thread (Metric)	LAA 6mm Metal Fittings
	LBB 6mm Plastic Fittings
	LCC 8mm Metal Fittings

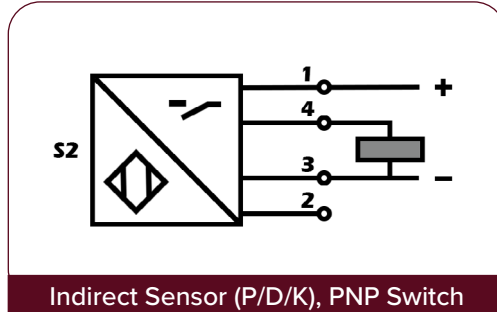
Referenced in the [Port Threads](#) section and [Fittings](#) section.



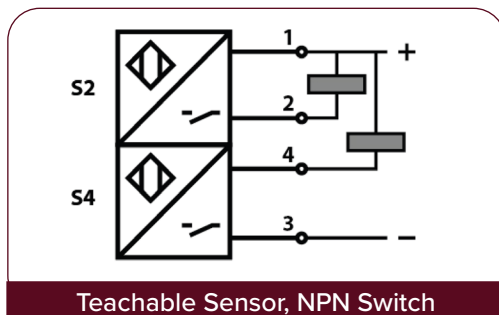
DIAGRAM 2 | SWITCH SENSORS & M12 PINOUT



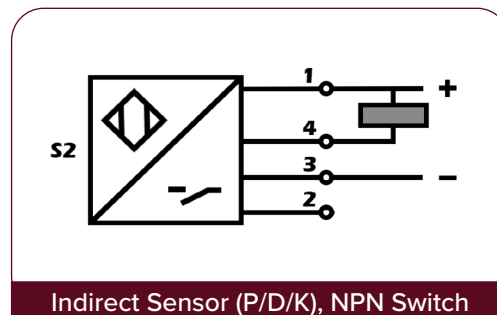
Teachable Sensor, PNP Switch



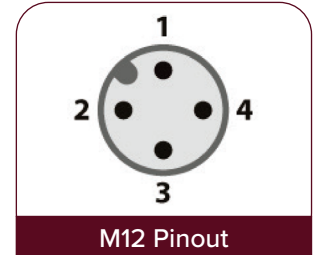
Indirect Sensor (P/D/K), PNP Switch



Teachable Sensor, NPN Switch



Indirect Sensor (P/D/K), NPN Switch



M12 Pinout

Body Style	Sensor Option	Sensor Position	Sensor Switch
All Other	EMPTY No Sensor	N/A	N/A
	U Teachable Sensing	1 Side 1 3 Side 3	C00 4-Pin M12 NPN DC Switch D00 4-Pin M12 PNP DC Switch
	P Part Present		
	D Double Sheet		
	K Part Present & Double Sheet		
B00	EMPTY No Sensor	N/A	N/A
	U Teachable Sensing	1 Side 1 3 Side 3	C00 4-Pin M12 NPN DC Switch D00 4-Pin M12 PNP DC Switch
	P Part Present	3 Side 3	
	D Double Sheet		

Referenced in the [Side Sensing](#) section.



TABLE 3 | DEPENDENCIES | SENSOR OPTION AND SENSOR POSITION

Sensor Option	Sensor Position	Side 1	Side 3
EMPTY No Sensor	N/A	No Sensor	No Sensor
U Teachable Sensing	1 Side 1	Teachable Sensor	No Sensor
	3 Side 3	No Sensor	Teachable Sensor
P Part Present	1 Side 1	Part Present Sensor	No Sensor
	3 Side 3	No Sensor	Part Present Sensor
D Double Sheet	1 Side 1	Double Sheet Sensor	No Sensor
	3 Side 3	No Sensor	Double Sheet Sensor
K Part Present & Double Sheet	1 Side 1	Part Present Sensor	Double Sheet Sensor
	3 Side 3	Double Sheet Sensor	Part Present Sensor

Referenced in the [Side Sensing](#) section.

DIAGRAM 2 | JAW TIP HEIGHTS / THICKNESSES

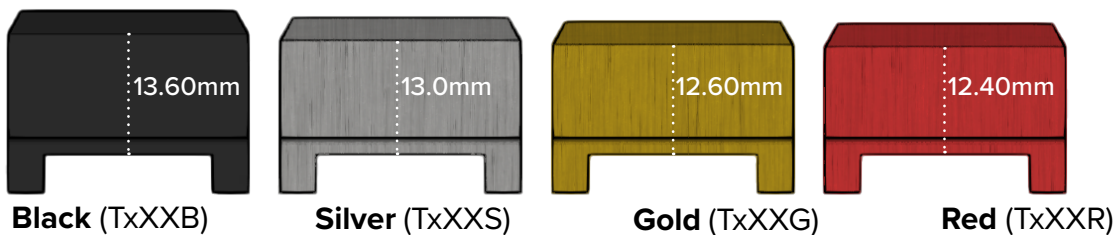


TABLE 5 | DEPENDENCIES | JAW STYLES AND UPPER JAW TIPS

Jaw Style	Upper Jaw Tip
S Standard Jaw	ALL JAW TIPS
C Single Chisel Jaw	TASD(B/S/G/R), TASC(B/S/G/R), TASF(B/S/G/R)
D Double Chisel Jaw	TADD(B/S/G/R), TADC(B/S/G/R), TADF(B/S/G/R)
F Flange Jaw	ALL JAW TIPS
K Hook Jaw	ALL JAW TIPS
N Needlenose Jaw	TASFB, TASFS, TASFG, TASFR
P Hammerhead Jaw	TADFB, TADFS, TADFG, TADFR
R Short Standard Jaw	ALL JAW TIPS
T Single Low Profile Shovel Jaw	TASD(B/S/G/R), TASC(B/S/G/R), TASF(B/S/G/R)
U Double Low Profile Shovel Jaw	TADD(B/S/G/R), TADC(B/S/G/R), TADF(B/S/G/R)

Referenced in the [Jaw Styles](#) section and the [Jaw Tips](#) section.



TABLE 5 | DEPENDENCIES | UPPER JAW TIP AND LOWER JAW TIP

Upper Jaw Tip	Lower Jaw Tip
TASD(B/S/G/R)	EMPTY, TBSD(B/S/G/R), TBSC(B/S/G/R), TBSF(B/S/G/R)
TADD(B/S/G/R)	EMPTY, TBDD(B/S/G/R), TBDC(B/S/G/R), TBDF(B/S/G/R)
TASC(B/S/G/R)	EMPTY, TBSD(B/S/G/R)
TADC(B/S/G/R)	EMPTY, TBDD(B/S/G/R)
TASF(B/S/G/R)	EMPTY, TBSF(B/S/G/R)
TADF(B/S/G/R)	EMPTY, TBDF(B/S/G/R)
TA0(01/02)	EMPTY, TA0(01/02), TAF(01/02)
TAF(01/02)	
TA0(03/04)	EMPTY, TA0(03/04), TAF(03/04)
TAF(03/04)	
TA0(71/72)	EMPTY, TA0(71/72), TAF(71/72)
TAF(71/72)	
TA0(74/75)	EMPTY, TA0(74/75), TAF(74/75)
TAF(74/75)	

Referenced in the [Jaw Tips](#) section.