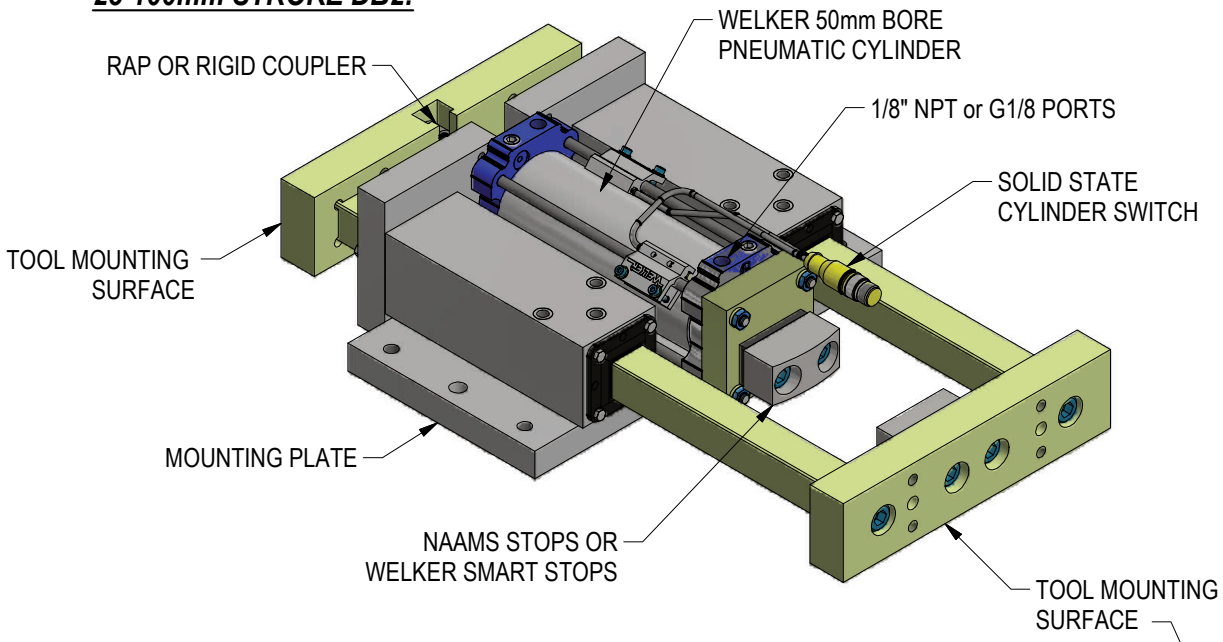
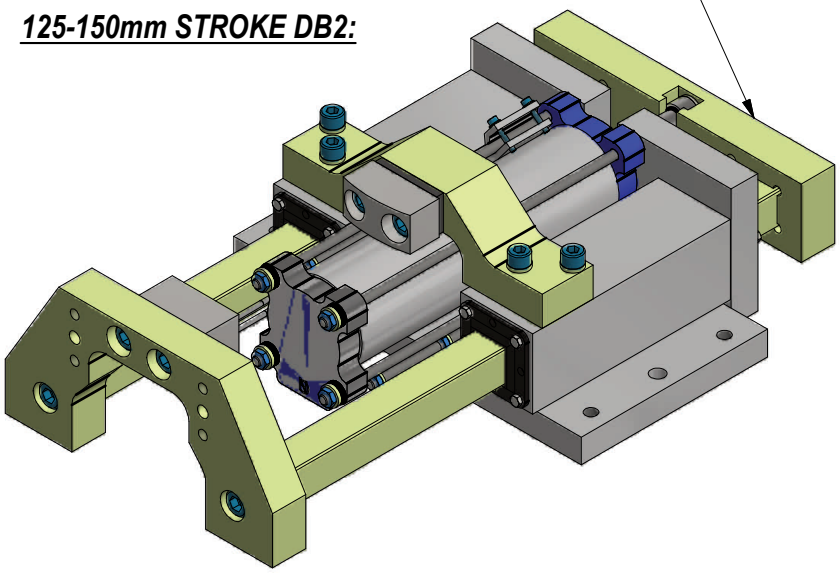
WELKER ENGINEERED PRODUCTS
ISO 9001 REGISTERED

DB2 GUIDED SLIDE

25-100mm STROKE DB2:



125-150mm STROKE DB2:



APPLICATIONS:

RETRACTABLE PINS & LOCATORS
PUSHERS
CROWDERS
THRUSTERS
SMALL LIFTERS
SLIDES

RELEASED: 8/30/21

ORDERING INFORMATION

NOTE: ALL BOXES MUST BE FILLED IN FOR A COMPLETE PART NUMBER

D	B	2								X			X	X	X				

Stroke
- **075** 25-150mm (in 25mm increments)

Coupler
- **A** Rap (shortens nominal stroke by 2mm)
- **B** Rigid

Actuator
- **01** Pneumatic - Single Rod - NPT
- **02** Pneumatic - Single Rod - G Port

Switch
- **00** No switch
- **LX** See Welker Cylinder Switch Chart
- **P1** Welker Smart Stops

SEE SHIM CHART BELOW

Additional Retract Shims ~ Whole mm

Additional Retract Shims ~ Quarter mm

Additional Extend Shims ~ Whole mm

Additional Extend Shims ~ Quarter mm

SHIM CHART

WHOLE MILLIMETER CODES								QUARTER MM CODES	
THK (mm)	CODE	THK (mm)	CODE	THK (mm)	CODE	THK (mm)	CODE	THK (mm)	CODE
0	**0**	8	**8**	16	**G**	24	**R**	0.00	**0**
1	**1**	9	**9**	17	**H**	25	**S**	0.25	**A**
2	**2**	10	**A**	18	**J**	26	**T**	0.50	**B**
3	**3**	11	**B**	19	**K**	27	**U**	0.75	**C**
4	**4**	12	**C**	20	**L**	28	**V**		
5	**5**	13	**D**	21	**M**	29	**W**		
6	**6**	14	**E**	22	**N**	30	**X**		
7	**7**	15	**F**	23	**P**	35	**Y**		

	Switch	Part Number	Manufacturer	Description
Cylinder Switches	**L3**	SWITCH L3* L3 switch is weld field immune, comparable to World Switches. Dual sensor switch, 1 per cylinder	Welker	4-Wire, 4-Pin, DC (PNP) M12 X 1 Quick Disconnect
	L5	MK5113 Single sensor switch, 2 switches per cylinder	ifm Efector	3-Wire, 4-Pin, DC (NPN) M12 X 1 Quick Disconnect

Standard Switch Option - All other options may affect price and delivery

*Note that some mid and low frequency DC resistance applications (i.e. aluminum resistance welding applications) may cause a fault. In these applications, it is recommended that the sensor be ignored/bypassed during the welding cycle.

(DO NOT SCALE DRAWING)

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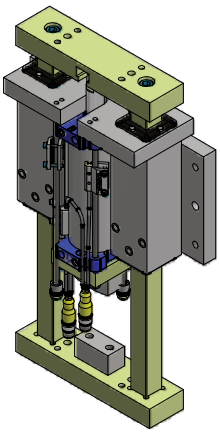
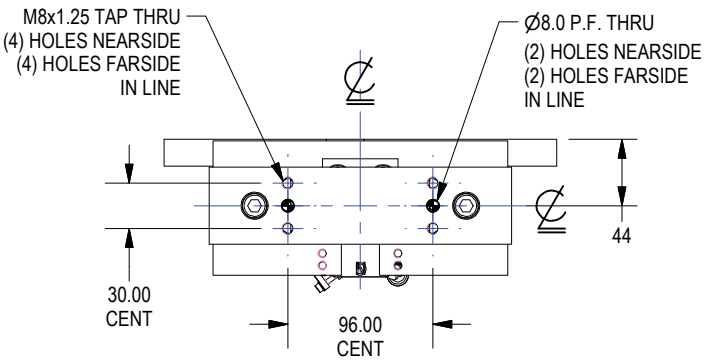
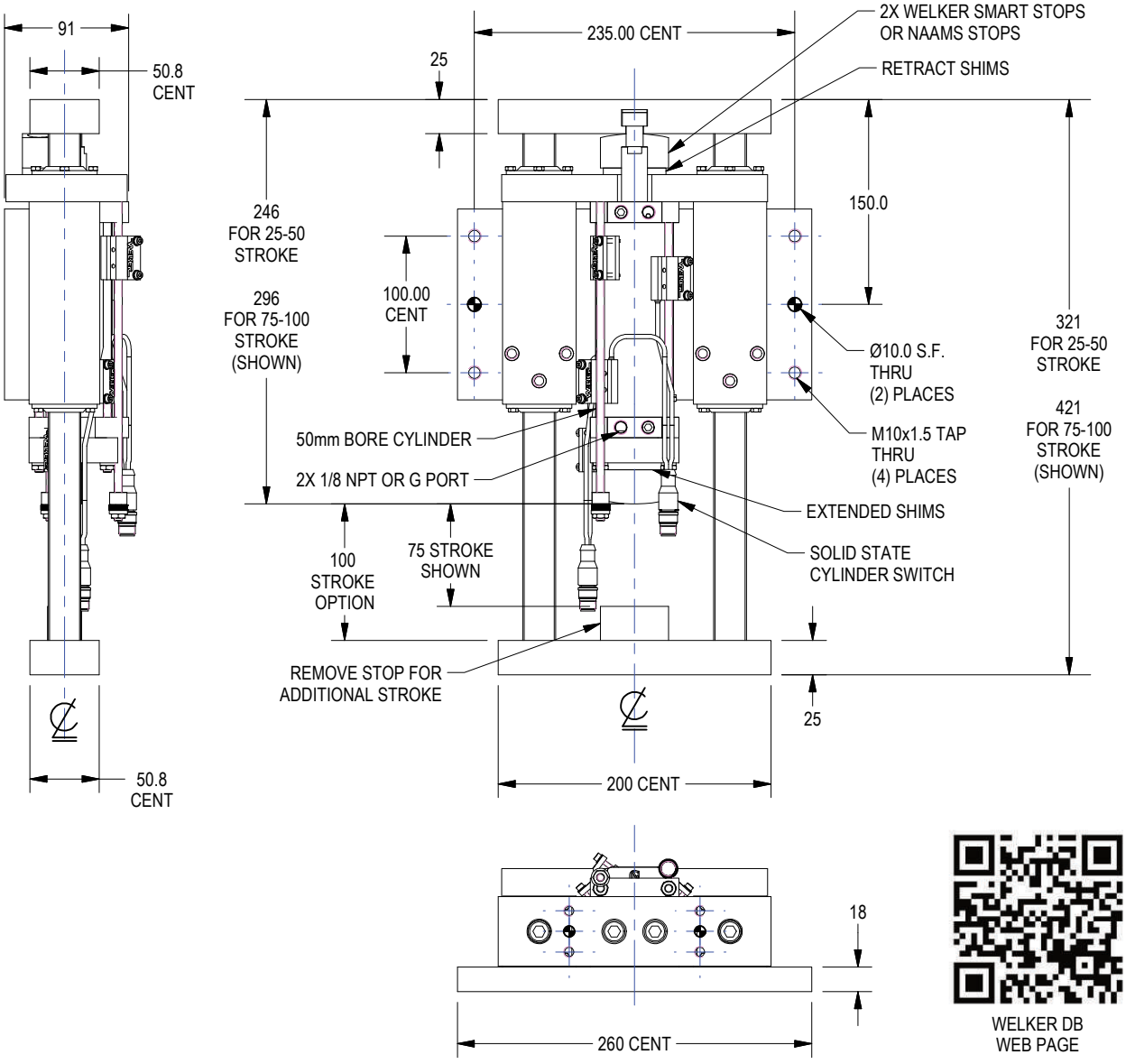
GENERAL DIMENSIONS: 25 to 100mm STROKES







WELKER DB
WEB PAGE

DB2 UNIT WEIGHTS						
STROKE:	25mm	50mm	75mm	100mm	125mm	150mm
WEIGHT:	30 lbs	28.5 lbs	33 lbs	31.5 lbs	36 lbs	34.5 lbs

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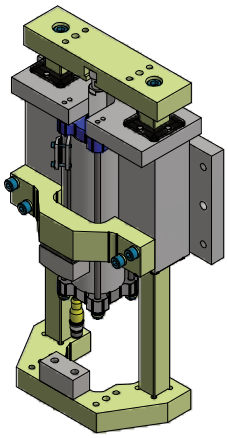
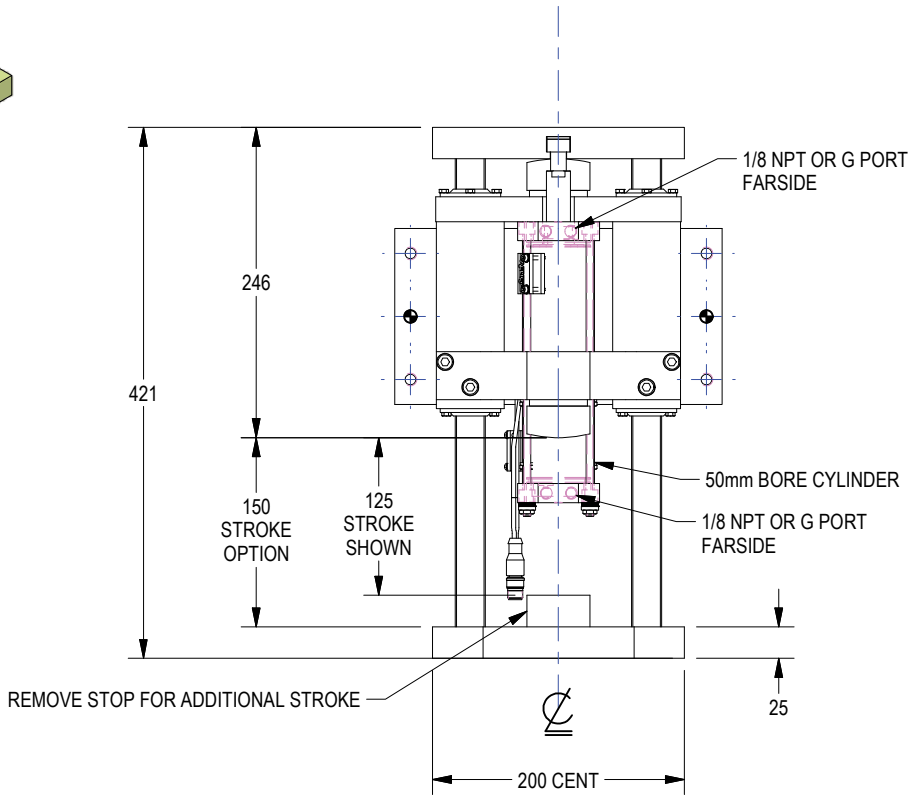
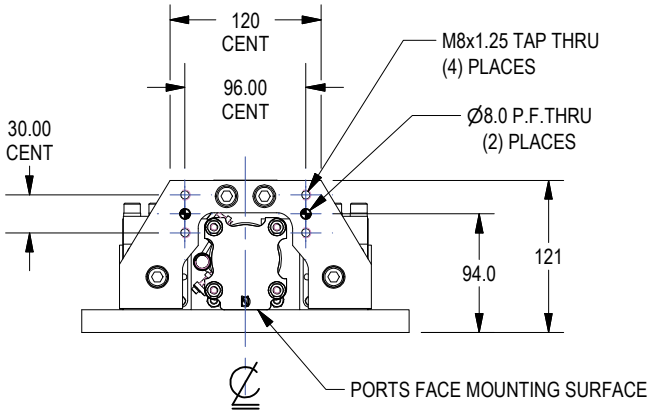
GENERAL DIMENSIONS: 125 & 150mm STROKES







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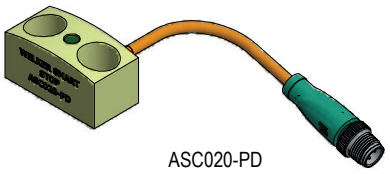
WELKER SMART STOP

WELKER SMART STOP does all stopping & sensing functions in one part.
SMART STOP minimizes engineering, field set up and operater adjustment time.

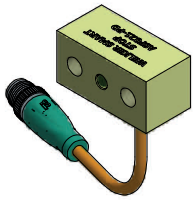
WELKER SMART STOP eliminates:

- Need for seperate mounts, brackets & flags.
- Need for switch adjustments when shimming.
- Improper adjustment of outboard switches.
- Outboard switch vibrating loose in bracket.
- Protecting outboard proxes from being stepped on or bent in tools.

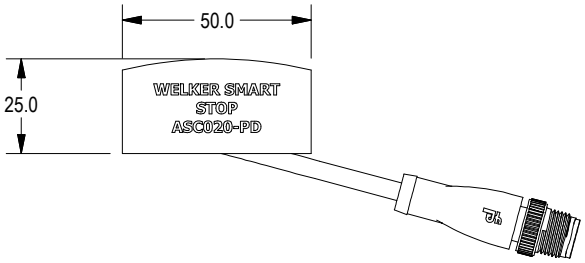


ASC020-PD

MODEL NO:
ASC020-PD FOR CROWNED, DRILL & C'BORE FOR M10 SHCS + DC SWITCH
ASC021-PD FOR CROWNED, M10X1.5 TAP + DC SWITCH
ASF020-PD FOR FLAT, DRILL & C'BORE FOR M10 SHCS + DC SWITCH
ASF021-PD FOR FLAT, M10X1.5 TAP + DC SWITCH



ASF021-PD



General Specifications

Switching function	Normally Open (NO)
Output type	PNP
Rated operating distance,sn	1.75mm
Output polarity	DC
Assured operating distance sa	0 - 1.42 mm
Output type	3-wire

Nominal Ratings

Operating voltage, U_B	5 - 30 V DC
Switching frequency, f	0 - 6000 Hz
Reverse polarity protection	Reverse polarity protected
Short-circuit protection	Pulsing
Voltage drop, U_d	≤ 1.5 V
Operating current, I_L	0 - 100 mA
Off-state current, I_r	0 - 0.2 mA
No-load supply current, I_0	≤ 15 mA

Indicators/Operating Means

Operating voltage indicator	LED green
Switching state indicator	LED yellow

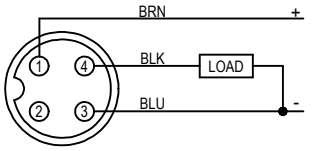
Ambient Conditions

Ambient temperature	-40 - 85 °C (-40 - 185 °F)
Storage temperature	-40 - 85 °C (-40 - 185 °F)

Mechanical Specifications

Connection type Connector plug	M12 x 1 , 4-pin
Cable length	255mm
Degree of protection	IP67
Cable material	Weld spatter resistant, robotic quality POC
Cable color	Orange

WIRING DIAGRAM (PNP)



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Welker DB2 Technical Information

Wipers: The wiper is a custom molded moly impregnated urethane wiper. Welker recommends changing the wiper yearly. Specific applications may require more or less frequent wiper service.

Stroke: The stroke accuracy is limited to that of the cylinder. Normal cylinder stroke accuracy is ± .015" (0.38mm).
Rap couplings cause the unit to be 2mm less than the nominal stroke of the cylinder. The rap allows the cylinder to accelerate without load, acting like a slide hammer. The impact of the coupler helps free tooling from a bound condition, similar to a dowel puller.

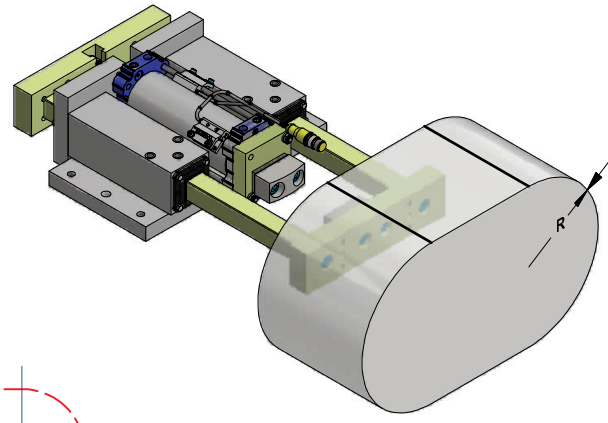
Welker cylinders do not require lubrication.

Switch: DB2 is available with solid state cylinder switch or Welker Smart Stop.

Repeatability: Unit utilizes a full contact bearing surface for high repeatability. Repeatability within ±.002" (0.05mm) part to part is achievable.

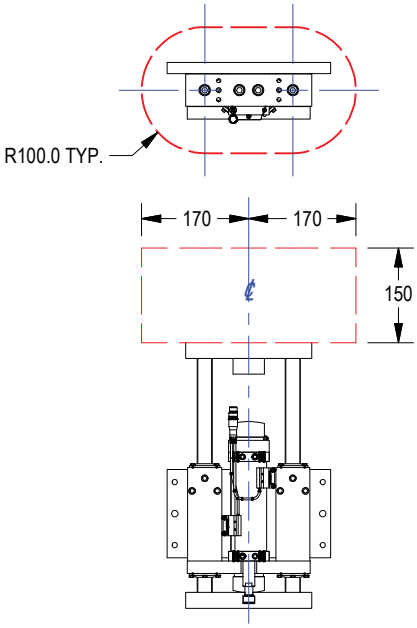
Wear: Defined as variance in position under load over time. Shot pin tests indicate maximum wear of .002" wear at 3 million cycles.

Loading and Deflection: Maximum deflection is ±.005" and is measured at the **end of the ram** up to the specified strokes and up to the loads and distances as shown below. Longer extensions can be used at lower tolerances and loads. Tooling mounted closer to the body exhibit less deflection. For applications with longer strokes and higher loads, consult Welker.



MOUNTED TOOLING MUST BE WITHIN APPROVED APPLICATION RADIUS FROM END OF RAM:
50 lbf @ R = 100.0mm (4.0")

±0.13 (±.005") MAX DEFLECTION AT END OF RAM UP TO 100mm STROKE



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