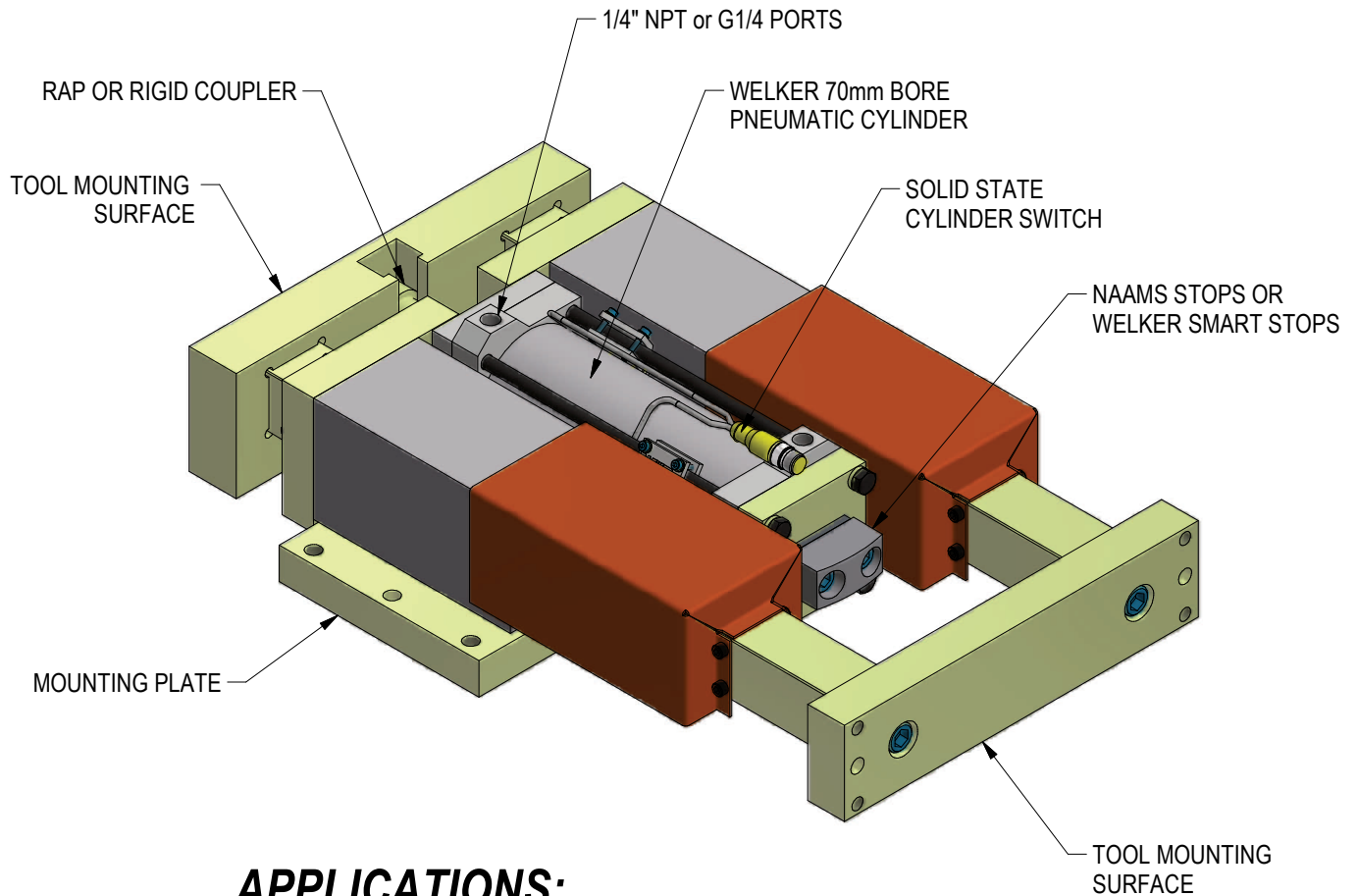


## DB4 GUIDED SLIDE



### APPLICATIONS:

RETRACTABLE PINS & LOCATORS  
PUSHERS  
CROWDERS  
THRUSTERS  
SMALL LIFTERS  
SLIDES

ALUMINUM UNIT AVAILABLE

RELEASED: 10/10/18

# ORDERING INFORMATION

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



**Stroke**  
025 25-150mm (25mm increments)

**Coupler**  
A Rap\* (shortens nominal stroke by 2mm)  
B Rigid  
\*Not available with High Precision option

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

**Material**  
S Steel: Aluminum body, Steel mounting plates & ram  
A Aluminum: Aluminum body, mounting plates & ram

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

**Precision Stroke**  
X Standard Precision  
P High Precision (not available with Rap Coupler option)

**Port Rotation**  
1 Port in Position 1  
3 Port in Position 3

**Extend Shims**  
**Quarter mm**  
0 See Shim Chart

**Extend Shims**  
**Whole mm**  
0 See Shim Chart

**Retract Shims**  
**Quarter mm**  
0 See Shim Chart

**Retract Shims**  
**Whole mm**  
0 See Shim Chart

**Shroud**  
0 No Shroud  
1 Shroud

Standard Options - All other options may affect price & delivery.

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 Option	Part Number	Manufacturer	Description
<b>Cylinder Switches</b>	L3	SWITCH L3 L3 switch is weld field immune, comparable to World Switches	Welker	4-Wire, 4-Pin, DC (PNP) M12 X 1 Quick Disconnect
	L5	MK5113 (This is a single sensor switch: 2 switches are installed 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

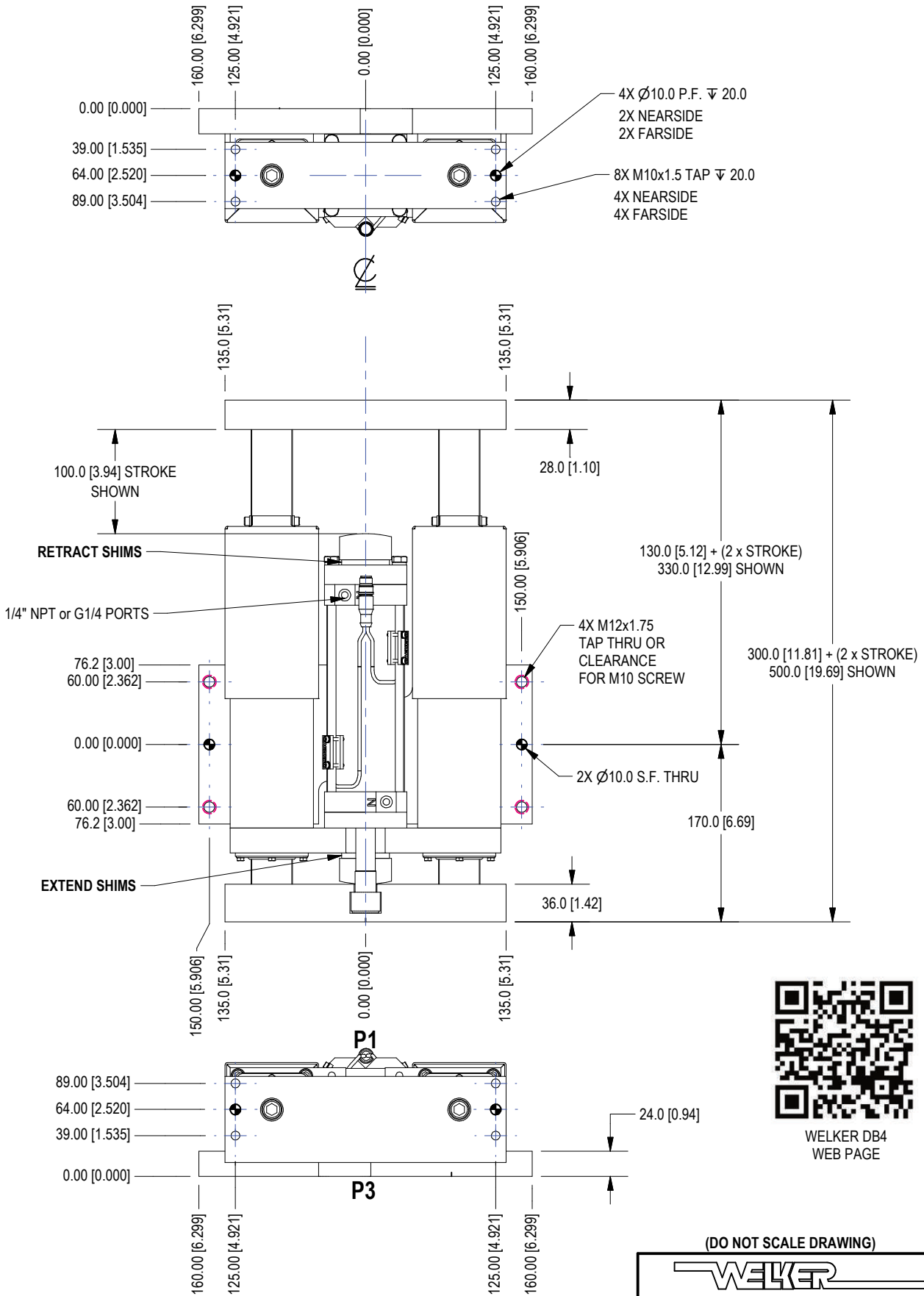
WEIGHTS (WEIGHTS SHOWN ARE APPROXIMATE, VARY WITH OPTIONS)						
STROKE:	25mm	50mm	75mm	100mm	125mm	150mm
STEEL	81 lbs	83 lbs	86 lbs	88 lbs	90.5 lbs	94.5 lbs
ALUMINUM	43.5 lbs	44 lbs	45 lbs	45.5 lbs	46 lbs	48 lbs

(DO NOT SCALE DRAWING)

**ENGINEERED PRODUCTS**

(800) 229-0890 www.welkerproducts.com

# GENERAL DIMENSIONS



WELKER DB4  
WEB PAGE

(DO NOT SCALE DRAWING)



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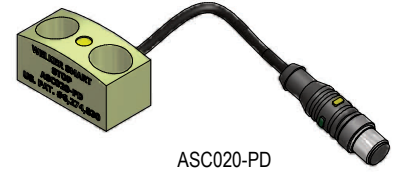
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# WELKER SMART STOP

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

**WELKER SMART STOP** eliminates:

- Need for separate 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.

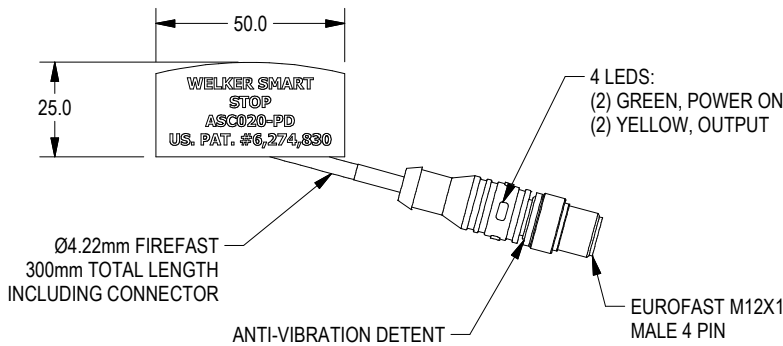


ASC020-PD

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

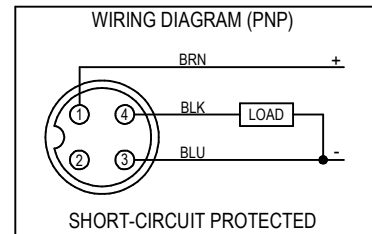


ASF021-PD



## SPECIFICATIONS

CONTACT CARRIER MATERIAL (RSE)	PUR
MOLDED HEAD MATERIAL / COLOR (RSE)	THERMOPLASTIC PUR / BLACK
CONTACT MATERIAL / PLATING (RSE)	GOLD-PLATED BRASS
COUPLING NUT MATERIAL / PLATING (RSE)	NICKEL-PLATED BRASS
RATED OPERATING DISTANCE	2mm = .079" (NOMINAL)
MOUNTING MODE	FLUSH
HYSTERESIS (DIFFERENTIAL TRAVEL)	3-15%
MAX. RELATIVE TEMPERATURE DRIFT	LESS THAN OR EQUAL TO ±10%
MIN. REPEAT ACCURACY	LESS THAN OR EQUAL TO 2%
OPERATING TEMPERATURE	-25 to 70° (-13 to 158°F)
RATED OPERATIONAL VOLTAGE (DC)	10-30 VDC
MAX. RIPPLE	LESS THAN OR EQUAL TO 10%
RATED OPERATIONAL CURRENT	LESS THAN OR EQUAL TO 150 mA
NO-LOAD CURRENT	LESS THAN OR EQUAL TO 15 mA
MAX. OFF-STATE CURRENT	LESS THAN OR EQUAL TO 0.1mA
MAX. SWITCHING FREQUENCY	LESS THAN OR EQUAL TO 3 kHz
RATED INSULATION VOLTAGE	0.5 kV
OUTPUT FUNCTION	3-WIRE, NORMALLY OPEN, PNP
SHORT-CIRCUIT PROTECTION	YES
MAX. VOLTAGE DROP	LESS THAN OR EQUAL TO 1.8 V
WIRE BREAKAGE / REVERSE POLARITY PROTECT	YES
DEGREE OF PROTECTION	IP 67
HOUSING MATERIAL	SST, V2A 1.4301
ACTIVE FACE	PLASTIC, PA12-GF30
OUTER CABLE JACKET (SENSOR)	3mm PUR
VIBRATION RESISTANCE	55 Hz (1mm)
SHOCK RESISTANCE	30 x g (11 ms)
PIG-TAIL LED COLOR	GREEN = POWER, YELLOW = OUTPUT



(DO NOT SCALE DRAWING)



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## Welker DB4 Technical Information

**Shrouds:** Safety orange steel shrouds are available for additional protection. Shrouds prevent undesirable buildup of contamination from welding and machining applications. Welker specifically recommends shroud usage in MIG, TIG and arc welding applications. Shrouds should only be removed if clearance problems exist and conditions permit. Consult Welker.

**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 of shot pins is limited to that of the cylinder. Normal cylinder stroke accuracy is  $\pm .015"$  (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.

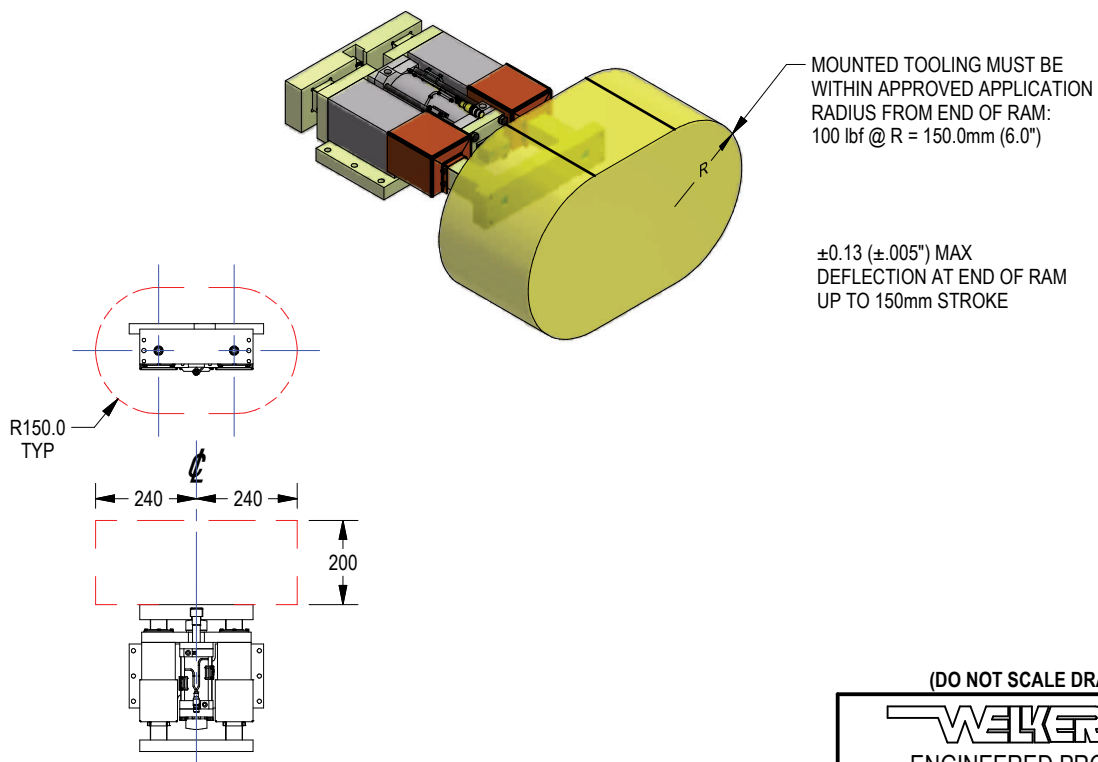
Welker cylinders do not require lubrication.

**Switch:** DB4 is available only with solid state cylinder switch.

**Repeatability:** Shot pin units utilize a full contact bearing surface for high repeatability. Repeatability within  $\pm .002"$  (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  $\pm .005"$  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. Pins mounted closer to the body exhibit less deflection. For applications with longer strokes and higher loads, consult Welker.



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