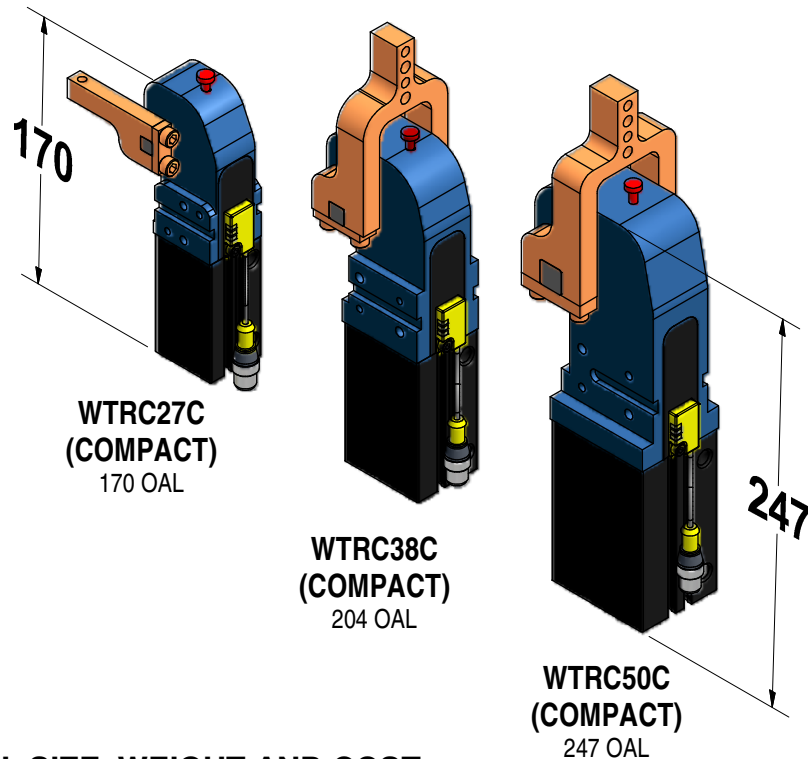


WEL-GRIP TOGGLE CLAMPS



REDUCE TOOL SIZE, WEIGHT AND COST

- Aids in mistake proof process vs. manual clamps
- Utilize smaller tools and floor space
- Extreme lightweight, reduces robot payload requirements
- Versatile mounting and clamp arm options
- Low profile, narrow design, ideal for end effectors

FEATURES

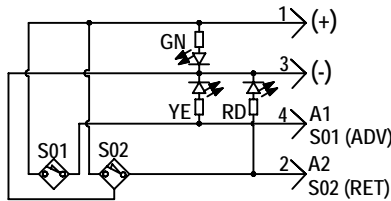
- Compact, lightweight fully enclosed design for 27, 38 and 50mm bores
- Adjustable arm angles of 30, 45, 60, 75, 90 and 105°
- Built in dual directional weld field immune sensor (optional)
- Built in hard stop in clamping position
- Fixed speed control in ports
- Manual release button to open clamp without air pressure
- Lube and maintenance free operation
- Full range of standard and U-arms available
- 3 year limited warranty

CAD data available at www.welkerproducts.com

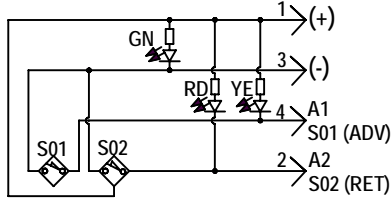
WELKER COMPACT TOGGLE CLAMP SWITCH

(#TRCSU100)

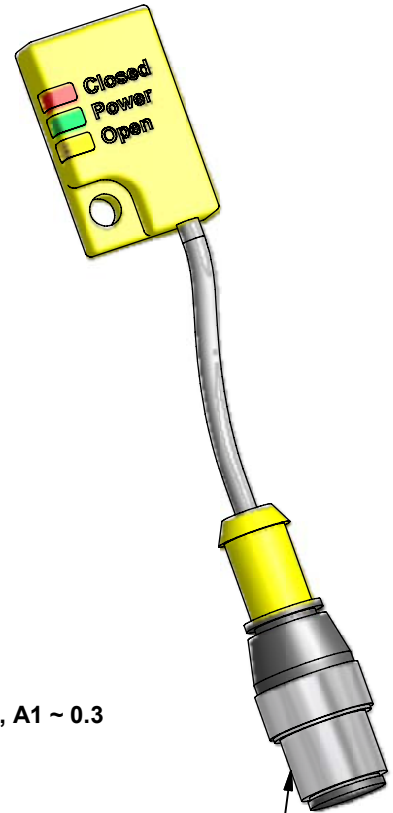
Magnetic field immunity (weld resistance) for AC and DC fields



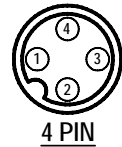
PNP



NPN



M12 X 1
CONNECTOR



4 PIN

Type	TRCSU100
Rated operating distance Sn	2mm
Mounting condition	non-flush
Assured switching distance	≤ (0,81 x Sn)mm
Correction factors	St37 = 1, V2A ~ 0.7, Ms ~ 0.4, A1 ~ 0.3
Repetition accuracy	≤ 2%
Temperature drift	≤ ± 10%
Hysteresis	3... 15%
Ambient temperature	-25 ... +70°C

Operating voltage	10... 30 VDC
Residual ripple	≤ 10% Uss
DC rated operational current	≤ 200 mA
No load current IO	≤ 15 mA
Residual current	≤ 0.1 mA
Rated insulation voltage	≤ 0.5 kV
Short-circuit protection	yes / thermal
Voltage dip at IE	≤ 1.8 V
Wire breakage / reverse polarity protection	yes / complete
Output function	4-wire, normally open, PNP (or NPN)
Switching frequency	≤ 0.03 kHz

Housing style	monitoring kit for clamping technology; Q3,5
Dimensions	29 x 17.5 x 7.9mm
Housing material	plastic, yellow
Material active area	plastic, yellow
Connection	connector, M12 x 1
Cable quality	Ø2, grey, PUR, 0.05, 0.08m
Cable cross section	3 x 0.08mm ²
Litz	40 x 0.05mm ²
Vibration resistance	55 Hz (1mm)
Shock resistance	30g, (11 ms)
Protection degree	IP67

Operating voltage display	LED green
Switch state display	2X LED's yellow / red

(DO NOT SCALE DRAWING)



ORDER INFORMATION FOR COMPACT SERIES TOGGLE CLAMP

WTRC 38 C 1 1 A 90 D C 0 2 A

- Model** _____
- Cylinder Type** _____
- 27** 27mm Bore
 - 38** 38mm Bore
 - 50** 50mm Bore
- Series** _____
- C** Compact
- Port Type** _____
- 1** 1=1/8 NPT, 2=1/8G
- Port Location** _____
- 1** 1=Rear Face, 2=Front Face
- Switch Type **** _____
- A** A = PNP Internal Sensing
 - B** B = NPN Internal Sensing
 - X** X = None
- Arm Open Angle** _____
- 30** Angle in 15° Increments (**30,45,60,75,90,105**)

ADD ARM NUMBER TO ORDER ARM PRE-ASSEMBLED. SEE ARM SHT #5 FOR ARMS (LEAVE "000" FOR NO ARM)

Arm Orientation-Sht 5

- A** A=90° ON "L" SIDE
- B** B=0° ON "L" SIDE
- C** A=90° ON "R" SIDE
- D** B=0° ON "R" SIDE
- 0** 0=NO ARM

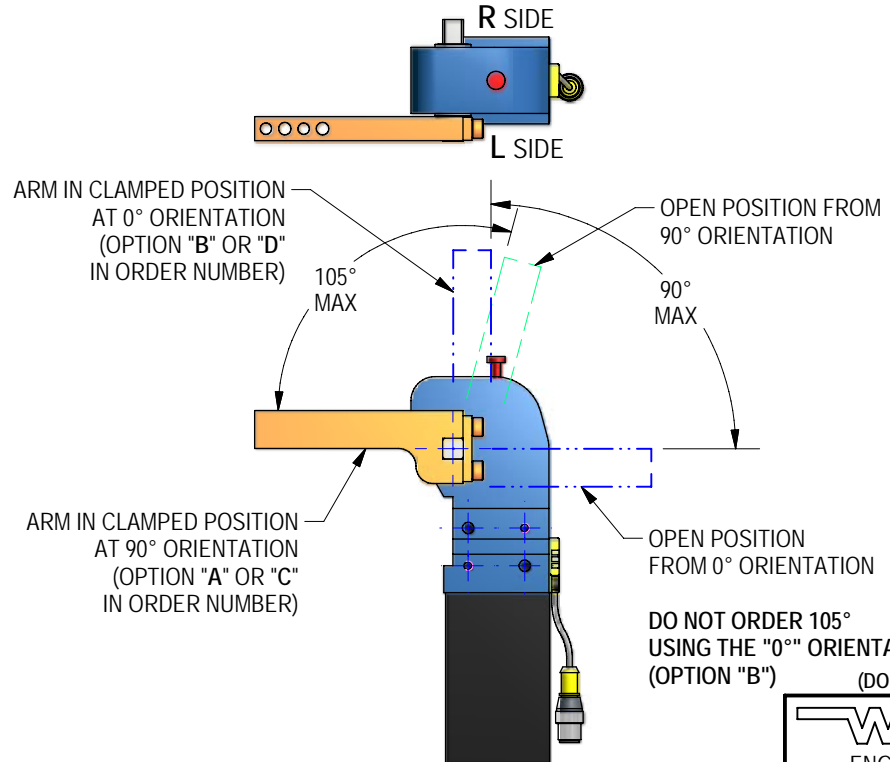
Note: When ordering arms C01, C03, C05, C06, use options "A" or "B" for orientation only

ORDER EXAMPLES: TO ORDER A 38mm BORE CLAMP WITH 1/8 NPT PORTS ON THE REAR FACE, PNP SENSING, 90° ARM OPEN ANGLE WITH NO ARM ASSEMBLED, ORDER #WTRC38C11A90D0000.

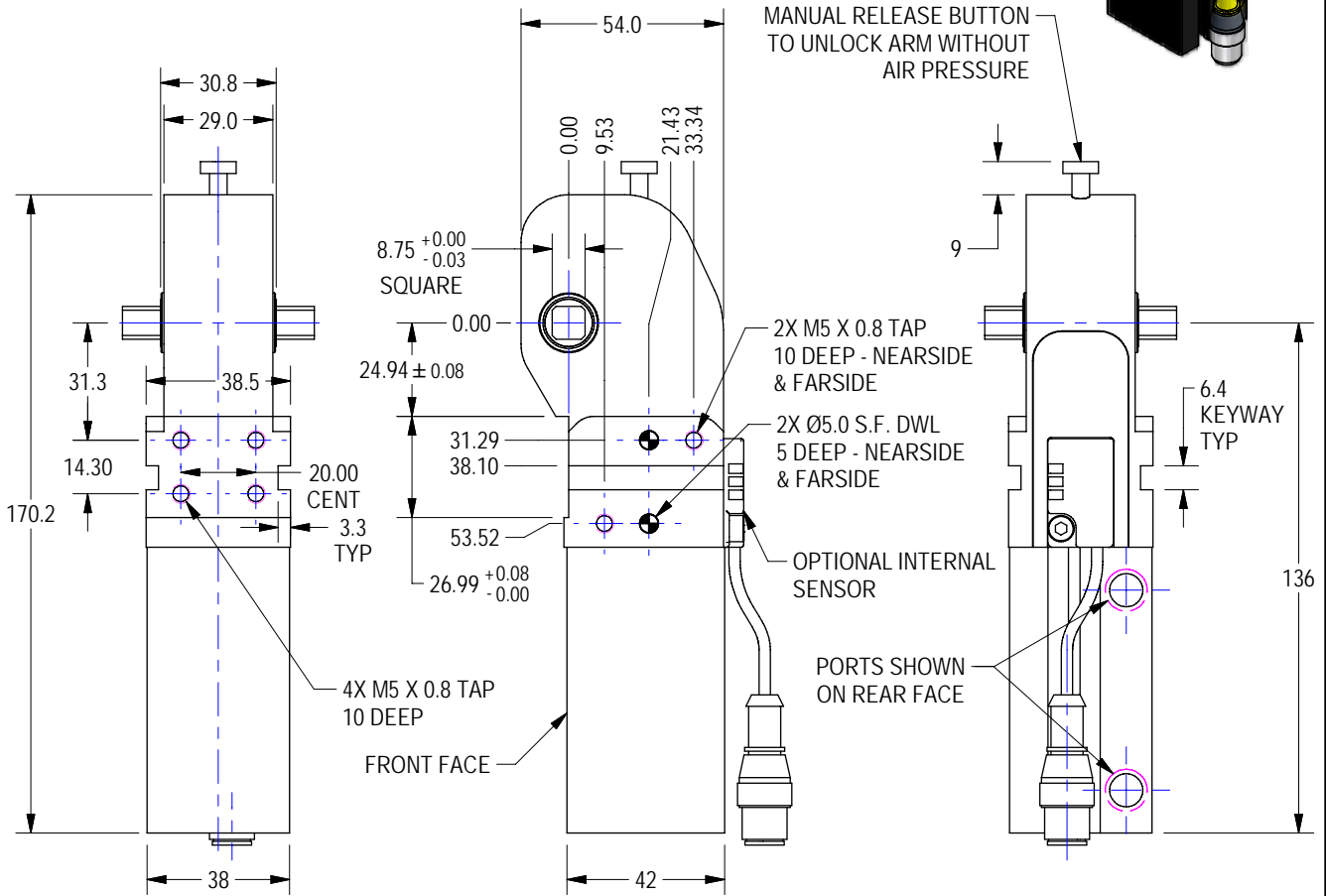
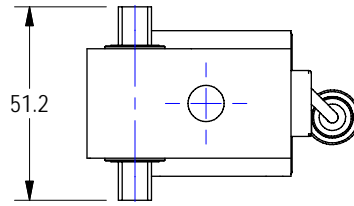
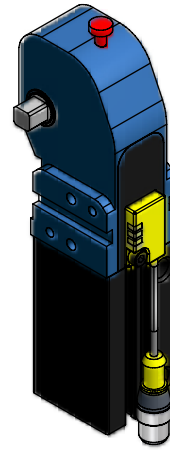
TO ORDER A 50mm BORE CLAMP WITH 1/8 G PORTS ON THE FRONT FACE, PNP SENSING, 105° ARM OPEN ANGLE WITH A WCA50C02 ARM ASSEMBLED AT THE 105° ORIENTATION ON THE "L" SIDE, ORDER #WTRC50C22A105DC02A.

TO ORDER A 27mm BORE CLAMP WITH 1/8 G PORTS ON THE REAR FACE, PNP SENSING, 45° ARM OPEN ANGLE WITH WCA50C05 ARMS ASSEMBLED AT THE 0° ORIENTATION, ORDER #WTRC27C21A45DC05B.

** SWITCH CAN BE ORDERED SEPARATELY AS A SPARE PART. ORDER #TRCSU100



WTRC27 COMPACT SERIES TOGGLE CLAMP



Model	Holding Torque		Pivot Torque @ 80 psi		Weight lbf
	lbf.in	N.m	lbf.in	N.m	
WTRC27C	550	61	271	30	1.5

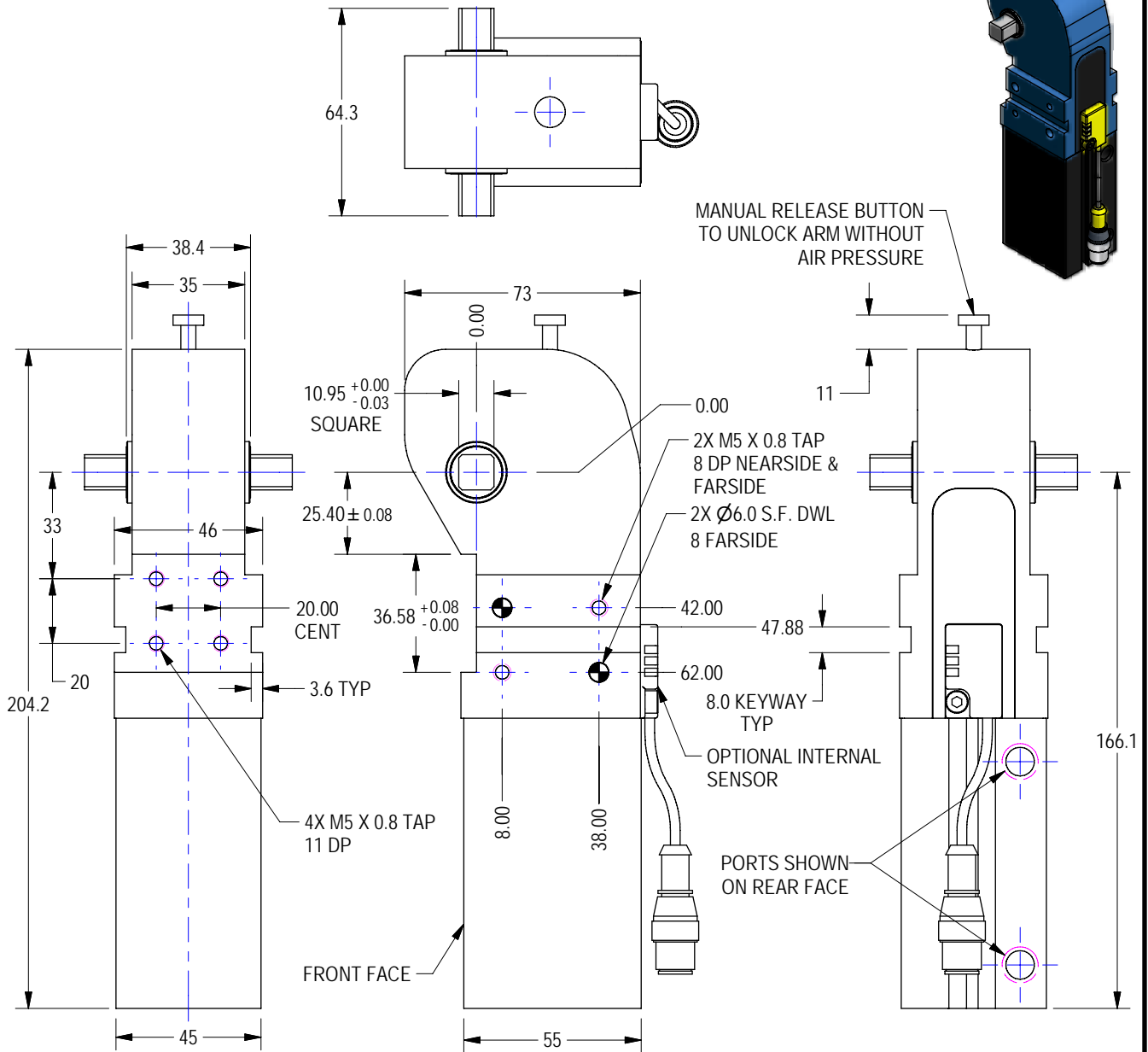
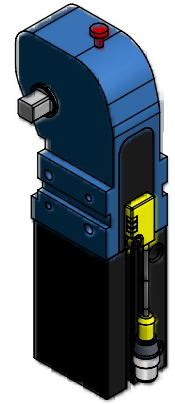
3D CAD AVAILABLE

(DO NOT SCALE DRAWING)

TOLERANCES-mm (in)
 3 PLACE ± 0.025 (.0010")
 2 PLACE ± 0.10 (.005")
 1 PLACE ± 0.5 (.02")
 ANGLE ± .5°

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WTRC38 COMPACT SERIES TOGGLE CLAMP



Model	Holding Torque		Pivot Torque @ 80 psi		Weight lbf
	lbf.in	N.m	lbf.in	N.m	
WTRC38C	1495	168	676	76	2.5

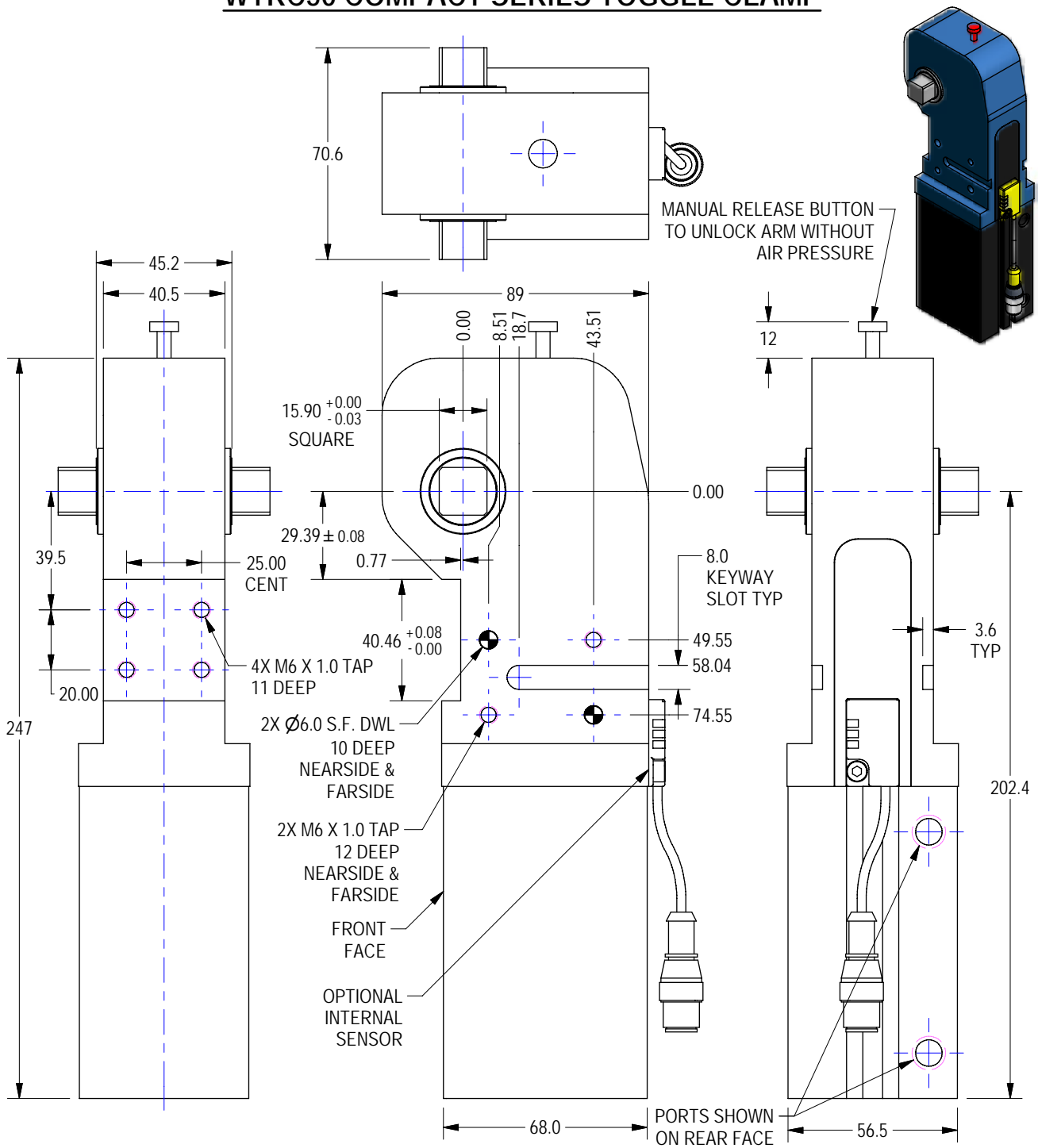
3D CAD AVAILABLE

(DO NOT SCALE DRAWING)

TOLERANCES-mm (in)	
3 PLACE	± 0.025 (.0010")
2 PLACE	± 0.10 (.005")
1 PLACE	± 0.5 (.02")
ANGLE	± .5°

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248-528-2020 www.e-welker.com

WTRC50 COMPACT SERIES TOGGLE CLAMP



Model	Holding Torque		Pivot Torque @ 80 psi		Weight lbf
	lbf.in	N.m	lbf.in	N.m	
WTRC50C	3841	434	1795	203	4.5

3D CAD AVAILABLE

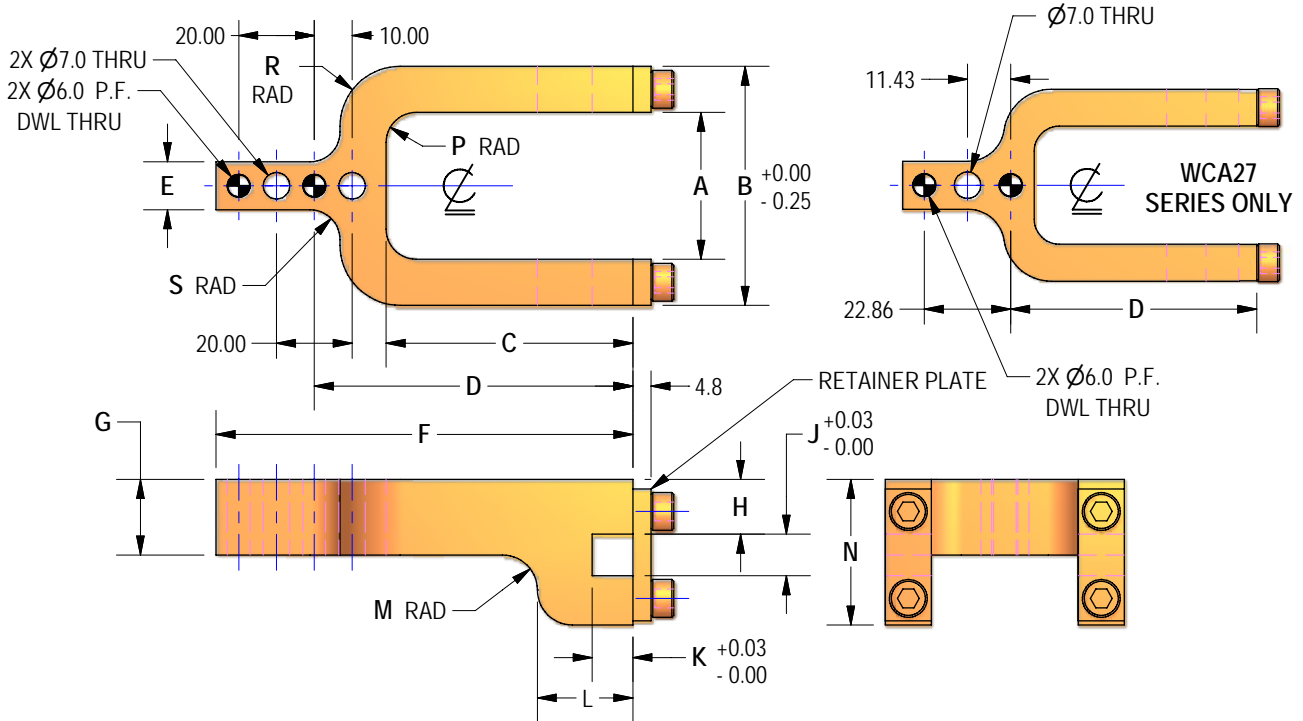
(DO NOT SCALE DRAWING)

TOLERANCES-mm (in)
 3 PLACE ± 0.025 (.0010")
 2 PLACE ± 0.10 (.005")
 1 PLACE ± 0.5 (.02")
 ANGLE ± .5°

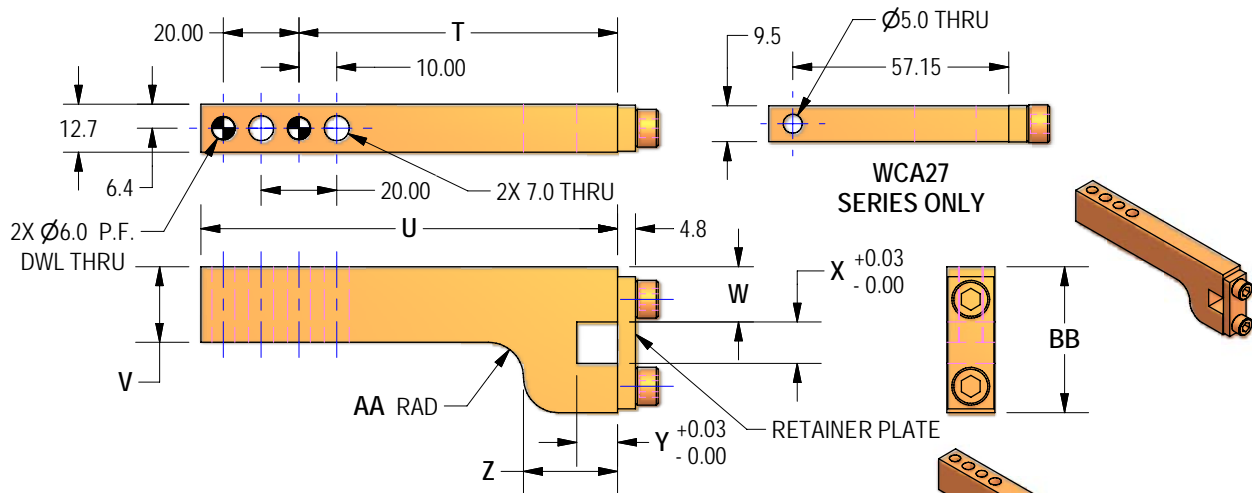
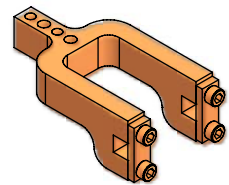
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WTRC COMPACT SERIES CLAMP ARMS

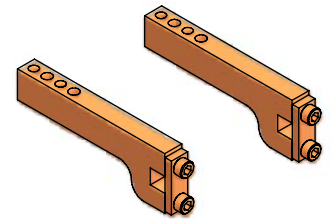
(ALL ARMS MANUFACTURED IN SAFETY ORANGE)



Arm Assy Number	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S
WCA27C01	31.24	50.8	54.1	60.33	12.7	88.9	17.3	9.87	8.84	8.64	19.1	4.6	28.7	6.6	12.7	9.7
WCA27C03	Blank arm same as WCA27-C-01 with no holes or dowels on the end															
WCA38C01	38.86	63.2	65.3	84.31	12.7	110.2	20.0	14.48	11.02	10.80	25.3	9.1	38.5	7.9	15.9	7.9
WCA38C03	Blank arm same as WCA38-C-01 with no holes or dowels on the end															
WCA50C01	46.05	71.6	72.9	91.80	15.0	117.9	21.1	13.97	16.00	15.80	28.9	15.0	44.0	6.4	9.9	6.4
WCA50C03	Blank arm same as WCA50-C-01 with no holes or dowels on the end															



Arm Assy Number	T	U	V	W	X	Y	Z	AA	BB
WCA27C02	N/A	63.5	12.7	10.01	8.84	8.64	24.9	7.9	28.7
WCA27C04	Blank arm same as WCA27-C-02 with no holes or dowels on the end								
WCA27C05	Dual arm option = (2) WCA27-C-02 arms								
WCA27C06	Dual arm option = (2) WCA27-C-04 arms								
WCA38C02	84.30	110.2	20.1	14.61	11.00	10.80	24.9	9.1	38.5
WCA38C04	Blank arm same as WCA38-C-02 with no holes or dowels on the end								
WCA38C05	Dual arm option = (2) WCA38-C-02 arms								
WCA38C06	Dual arm option = (2) WCA38-C-04 arms								
WCA50C02	73.80	101.6	22.1	14.10	16.00	15.80	27.7	10.9	44.0
WCA50C04	Blank arm same as WCA50-C-02 with no holes or dowels on the end								
WCA50C05	Dual arm option = (2) WCA50-C-02 arms								
WCA50C06	Dual arm option = (2) WCA50-C-04 arms								



DUAL ARM OPTION "-05" OR "-06"

(DO NOT SCALE DRAWING)

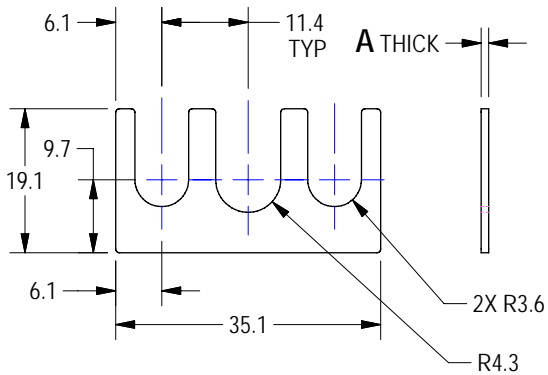
3D CAD AVAILABLE

SHEET 5

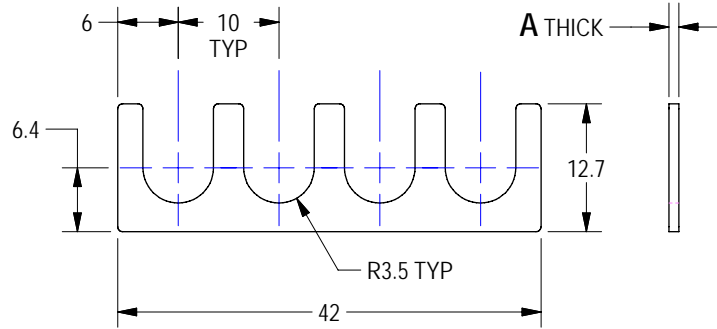
TOLERANCES (mm)	
3 PLACE	± 0.03 (.001")
2 PLACE	± 0.10 (.005")
1 PLACE	± 0.50 (.020")
ANGLE	± 5°

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SHIMS FOR COMPACT SERIES TOGGLE CLAMP



WSH2 SERIES



WSH3 SERIES

Shim Chart

Welker Shim# (27mm Bore)	Welker Shim# (38, 50mm Bores)	A Thick
WSH2100	WSH3100	1.00mm
WSH2025	WSH3025	0.25mm
WSH2400	WSH3400	*4.00mm
WSH2500	WSH3500	**5.00mm

*4.00mm includes (3) 1.00mm, (4) .25mm

**5.00mm includes (4) 1.00mm, (4) .25mm

Shim Usage Chart

Clamp Arm	Shim
WCA27C01	Welker WSH2 Series
WCA27C02	n/a
WCA27C03	n/a
WCA27C04	n/a
WCA27C05	n/a
WCA27C06	n/a
WCA38C01	Welker WSH3 Series
WCA38C02	Welker WSH3 Series
WCA38C03	n/a
WCA38C04	n/a
WCA38C05	Welker WSH3 Series
WCA38C06	n/a
WCA50C01	Welker WSH3 Series
WCA50C02	Welker WSH3 Series
WCA50C03	n/a
WCA50C04	n/a
WCA50C05	Welker WSH3 Series
WCA50C06	n/a

Note: All shims must be ordered separately

(DO NOT SCALE DRAWING)

