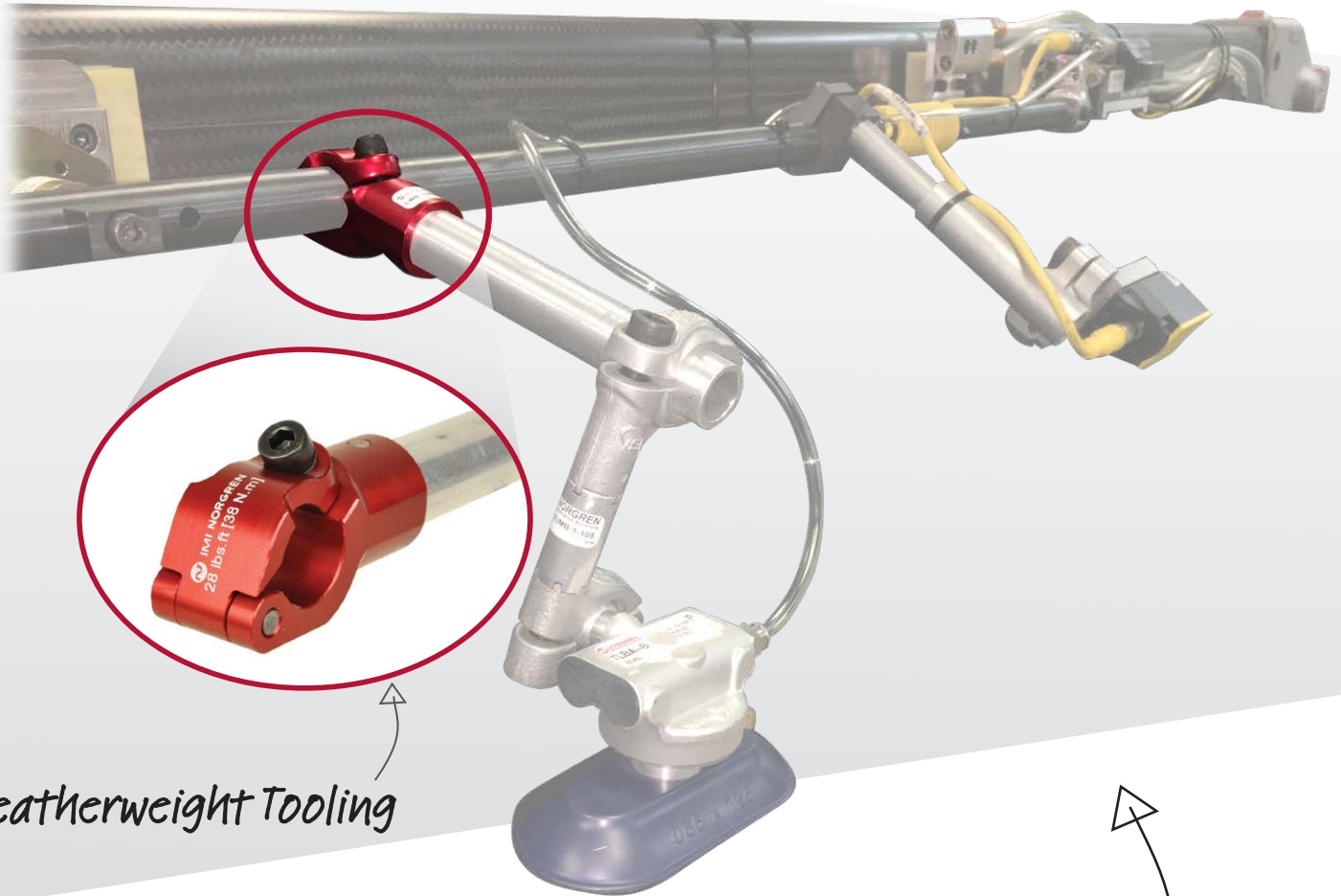




**IMI NORGREN®**

**Auto In-plant**



*Featherweight Tooling*

*Engineering  
GREAT Solutions*

# **Featherweight Tooling**

## **Lightweight, fast, and modular**





# Engineering GREAT solutions

**IMI Precision Engineering** is a world leader in motion and fluid control technologies. Wherever precision, speed and engineering reliability are essential, we deliver exceptional solutions which improve the productivity and efficiency of our customers' equipment.

*We deliver **GREAT** solutions for our customers tackling the world's most demanding engineering challenges.*

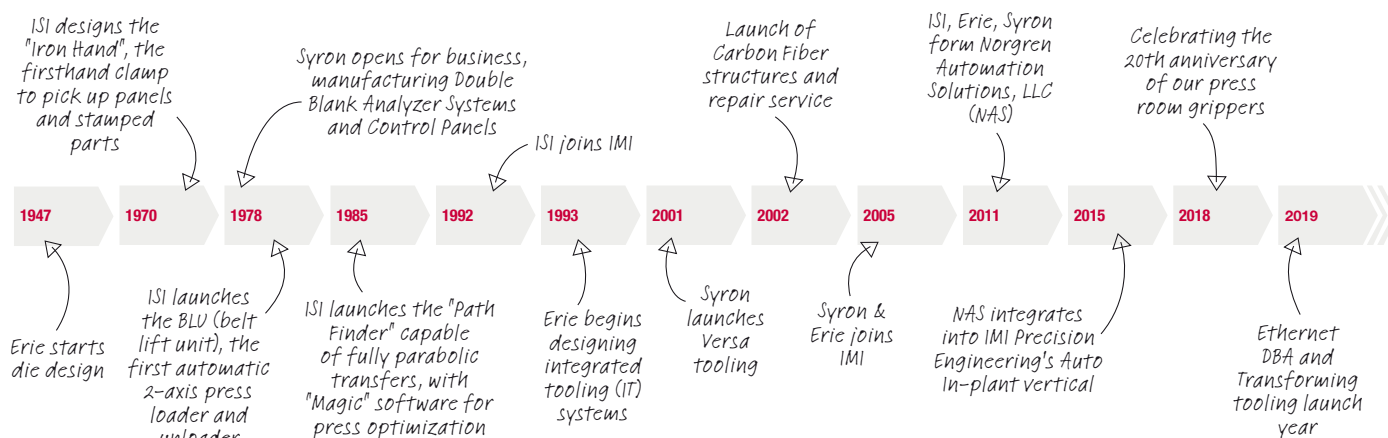
Part of IMI plc, (listed on the London Stock Exchange since 1966), IMI Precision Engineering has \$1,214m in sales generated from a sales and service network in 75 countries, as well as manufacturing capabilities in the USA, Germany, China, UK, Switzerland, Czech Republic, Mexico and Brazil. We support this with our global centers of technical excellence and facilities for CFD design and R&D testing. We employ a dedicated team of field engineers, sector specialists and key account managers – all committed to providing excellent service to our customers.

As a business, we aim to **UNDERSTAND** our customers' challenges. We then **CONNECT** our products, people and expertise in order to **DELIVER** exceptional

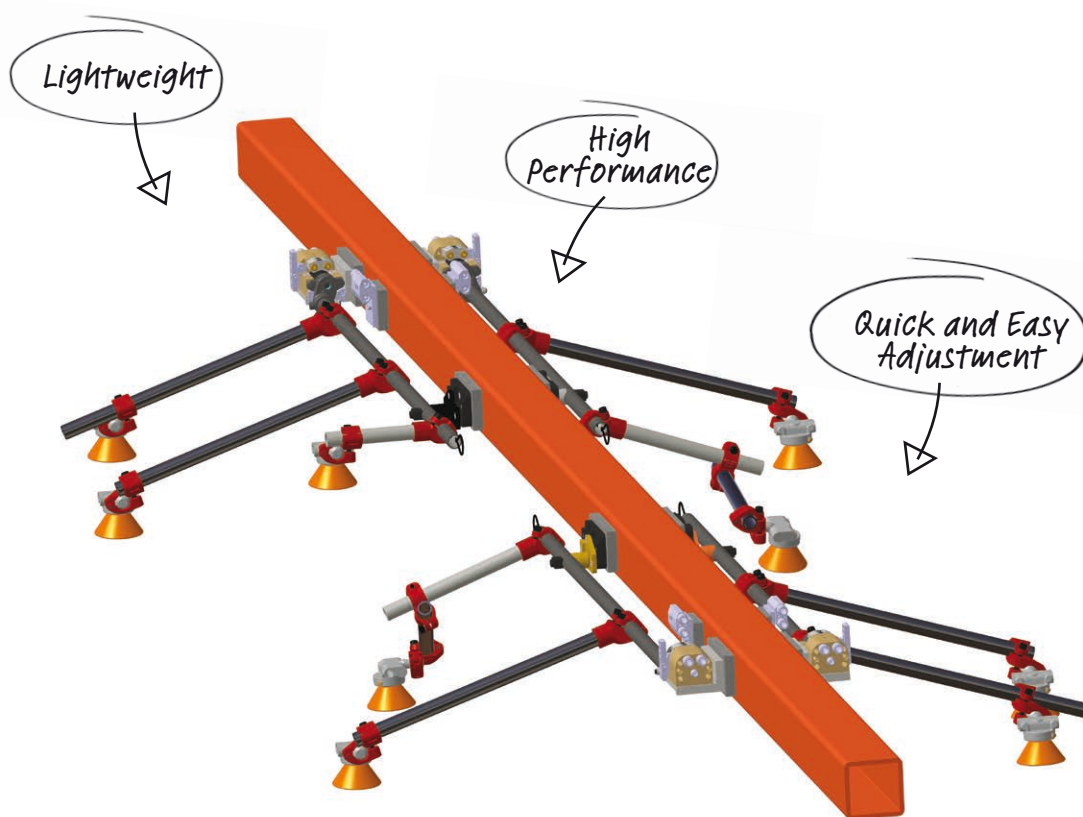
service and solutions. Together these actions **IMPROVE** the performance of our customers' machinery.

We call this Engineering Great. We deliver it to customers through a world-class portfolio of high performance products, and strong partnerships for problem-solving utilizing our global network of support.

**The Norgren Automation Solutions (NAS) Team creates capacity by designing and manufacturing automation and tooling that optimize production throughput in the press room and other material handling applications.**



# FEATHERWEIGHT TOOLING



The Norgren Featherweight Tooling is up to 70% lighter than the traditional tooling, making it easier, faster and more ergonomic to adjust during change over. The decrease in tooling weight can also increase the robot's capacity to move at a much faster speed or handle more cups. It can be used for a wide range of applications including Crossbar and Tandem press lines.

# Fast Find Guide

## FEATHERWEIGHT TOOLING

Bracket Arms



FW-04

T-clamp



FW-10

Ball Clamp



FW-11

Aluminum Tube



FW-12

Steel Tube



FW-13

- > 50% weight reduction from steel version
- > Made with aircraft aluminum
- > 1.00" clamp diameter, 1.00" aluminum stem diameter



### Order information:

**LWBS10EXXXX**

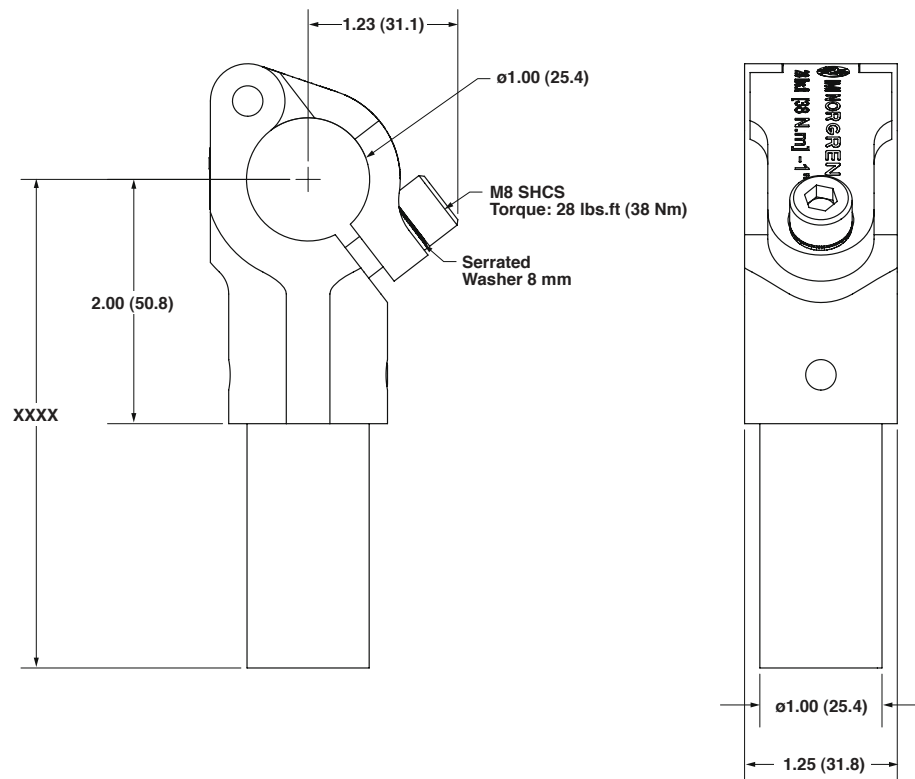
Single

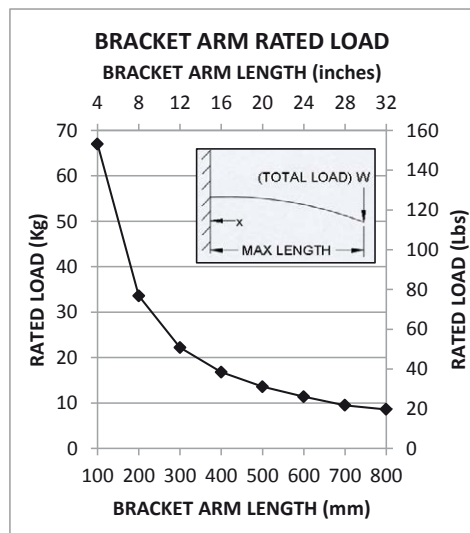
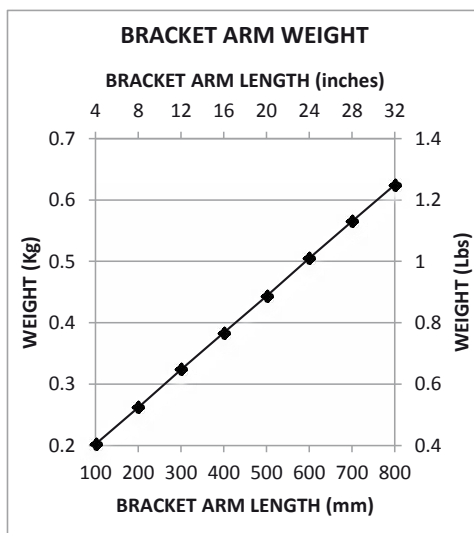
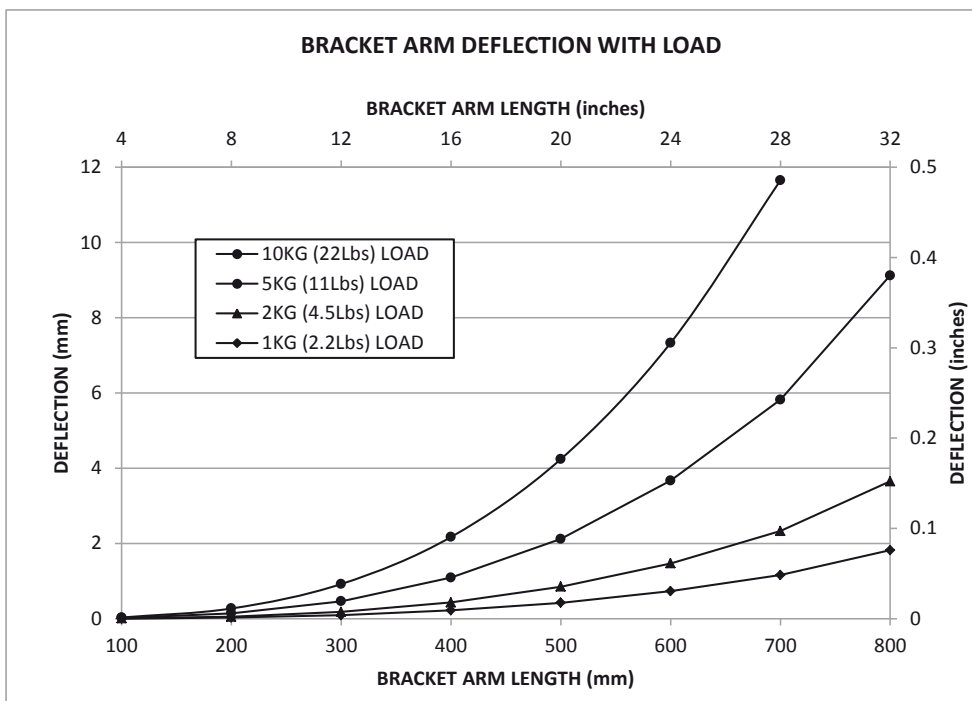
Length*	Code
100	0100
XXX	0XXX
800	0800

\*Lengths available: 100 to 800 in 25 mm increments.

### Application notes

Load limits of 50 lbs-ft (67.5 Nm) recommended for 1.00" bracket arms.





- > Aluminum version
- > 1.00" clamp diameter, 1.00" steel stem diameter



### Order information:

#### LWBD10EXXX A

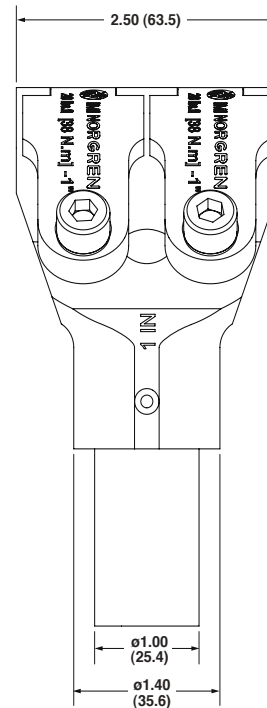
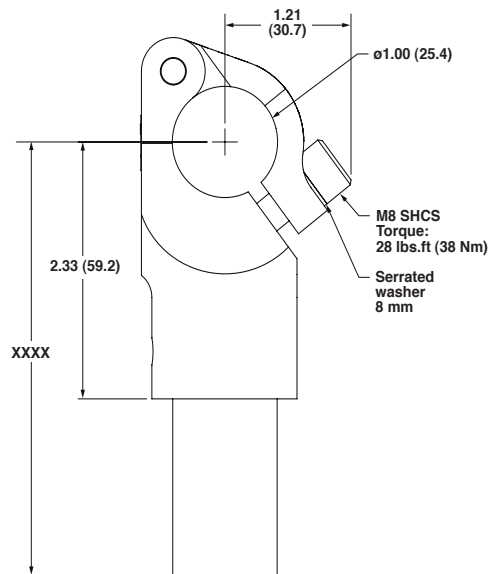
Double	Length*	Code	Aluminum
	100	0100	
	XXX	0XXX	
	800	0800	

\*Lengths available: 100 to 800 in 25 mm increments.

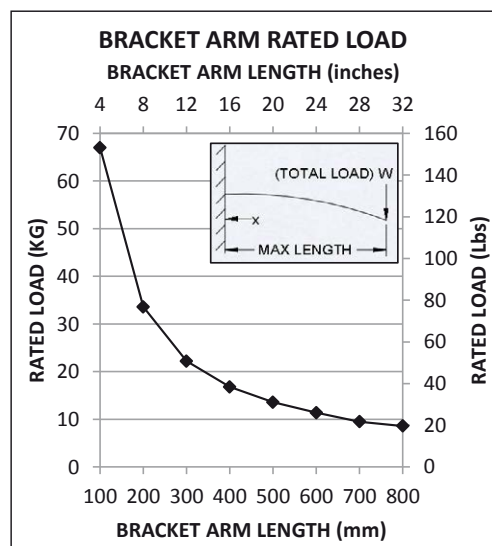
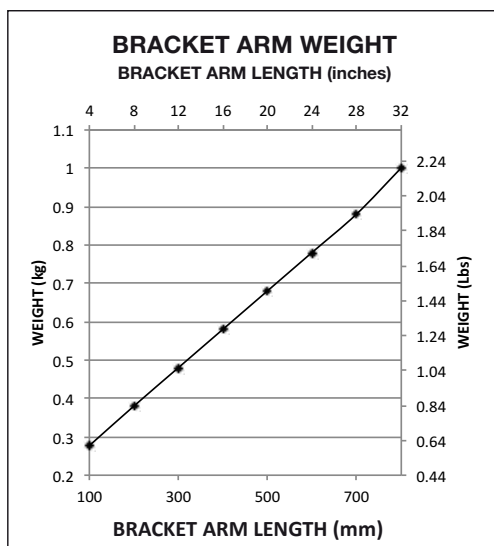
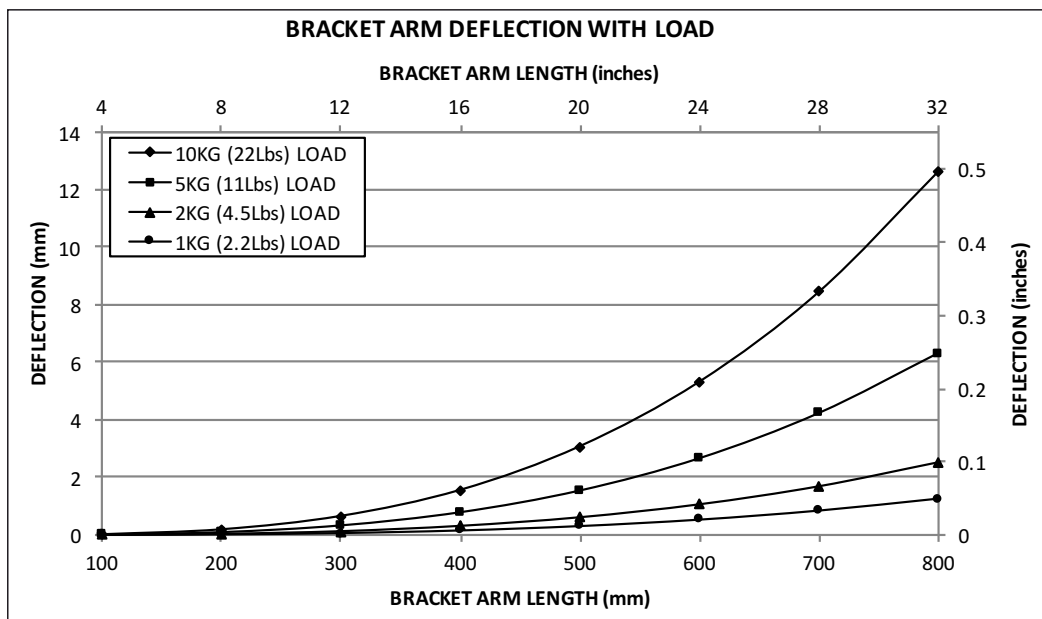


### Application notes

Load limits of 50 lbs-ft (67.5Nm) recommended for 1.00" bracket arms.







- > Steel version
- > 1.00" clamp diameter, 1.00" steel stem diameter

**Order information:****LWBD10EXXXX**

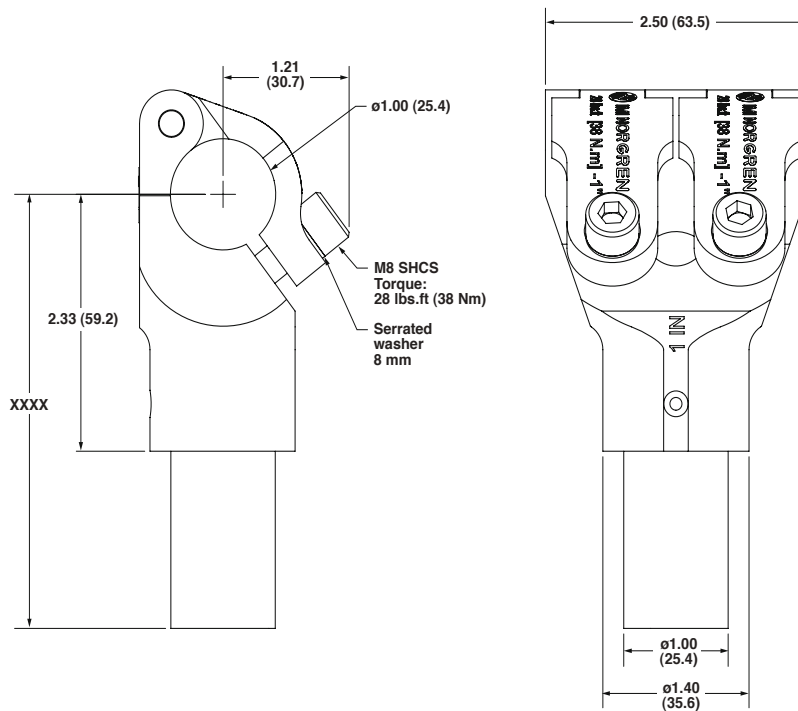
Double

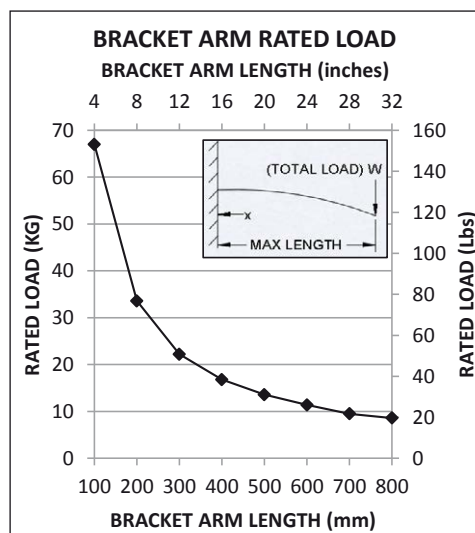
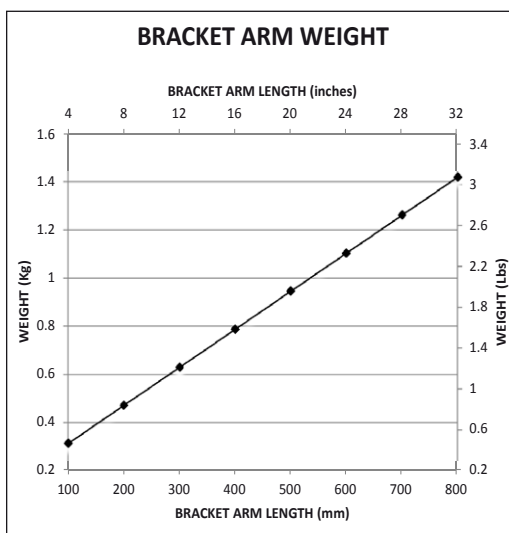
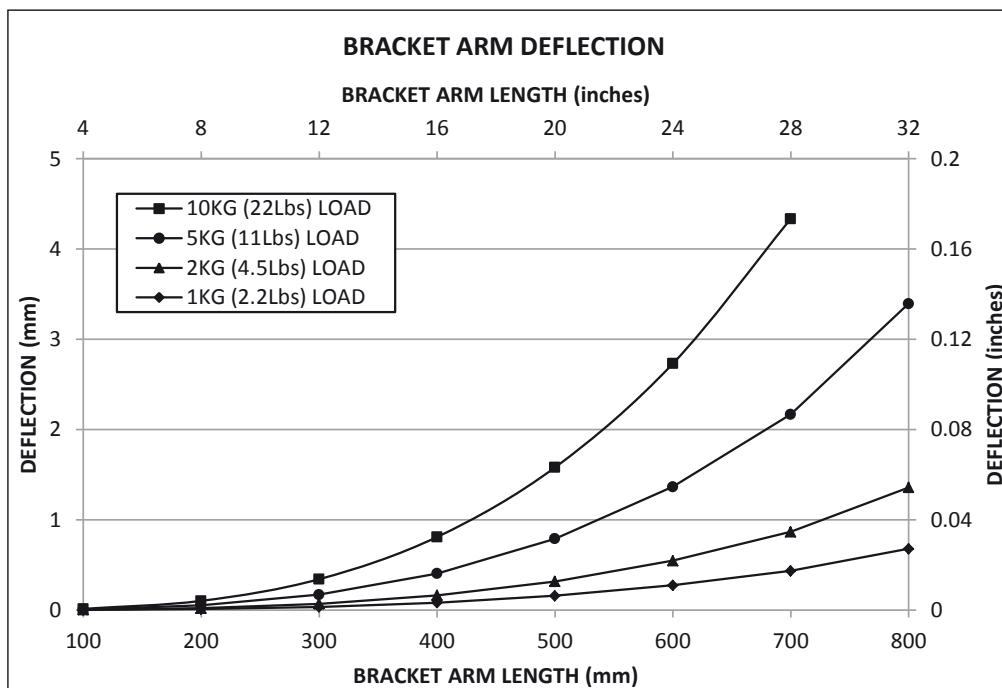
Length*	Code
100	0100
XXX	0XXX
800	0800

\*Lengths available: 100 to 800 in 25 mm increments.

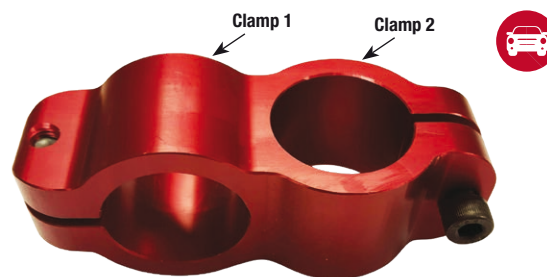
**Application notes**

Load limits of 50 lbs-ft (67.5Nm) recommended for 1.00" bracket arms.





> Lightweight clamp to provide a 90° connection between tubes



### Order information:

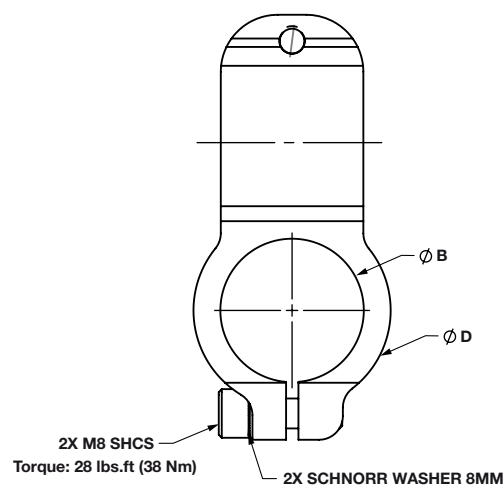
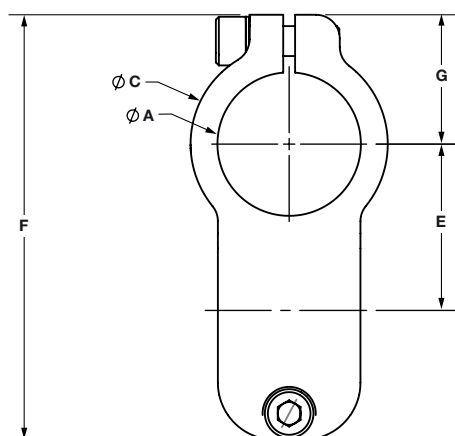
LWTC XXX XXX

Clamp 1 Description	Code	Clamp 2 Description	Code
1.00"	10E	1.00"	10E
1.50"	15E	1.50"	15E
25mm	25M	25mm	25M
40mm	40M	40mm	40M

### Application notes

Load limits of 100 ft-lbs [135 Nm] recommended for 1.50" and 40mm clamps

Load limits of 50 ft-lbs [67.5 Nm] recommended for 1.00" and 25mm clamps



### Standard parts

CATALOG #	LWTC10E10E	LWTC10E15E	LWTC15E15E	LWTC25M25M	LWTC25M40M	LWTC40M40M
"A"	1.00 (25.4)	1.50 (38.1)	1.50 (38.1)	.984 (25)	1.57 (40)	1.57 (40)
"B"	1.00 (25.4)	1.00 (25.4)	1.50 (38.1)	.984 (25)	.984 (25)	1.57 (40)
"C"	1.40 (35.6)	2.08 (52.8)	2.08 (52.8)	1.40 (35.6)	2.08 (52.8)	2.08 (52.8)
"D"	1.40 (35.6)	1.40 (35.6)	2.08 (52.8)	1.40 (35.6)	1.40 (35.6)	2.08 (52.8)
"E"	1.16 (29.5)	1.50 (38.1)	1.75 (44.5)	1.16 (29.5)	1.50 (38.1)	1.75 (44.45)
"F"	3.36 (85.3)	3.96 (100.6)	4.47 (113.5)	3.36 (85.3)	3.96 (100.6)	4.47 (113.5)
"G"	1.10 (27.9)	1.36 (34.5)	1.36 (34.5)	1.10 (27.9)	1.36 (34.5)	1.36 (34.5)
Weight	.19 lbs 86 gm	.36 lbs 163 gm	.56 lbs 252 gm	.19 lbs 86 gm	.34 lbs 152 gm	.44 lbs 199 gm

- > Can be used in applications where ball rotation is not required
- > Can be used with 1.00" diameter tube or 1.125" ball
- > Lighter than IMI Norgren Ultra Arm Series

#### Order information:

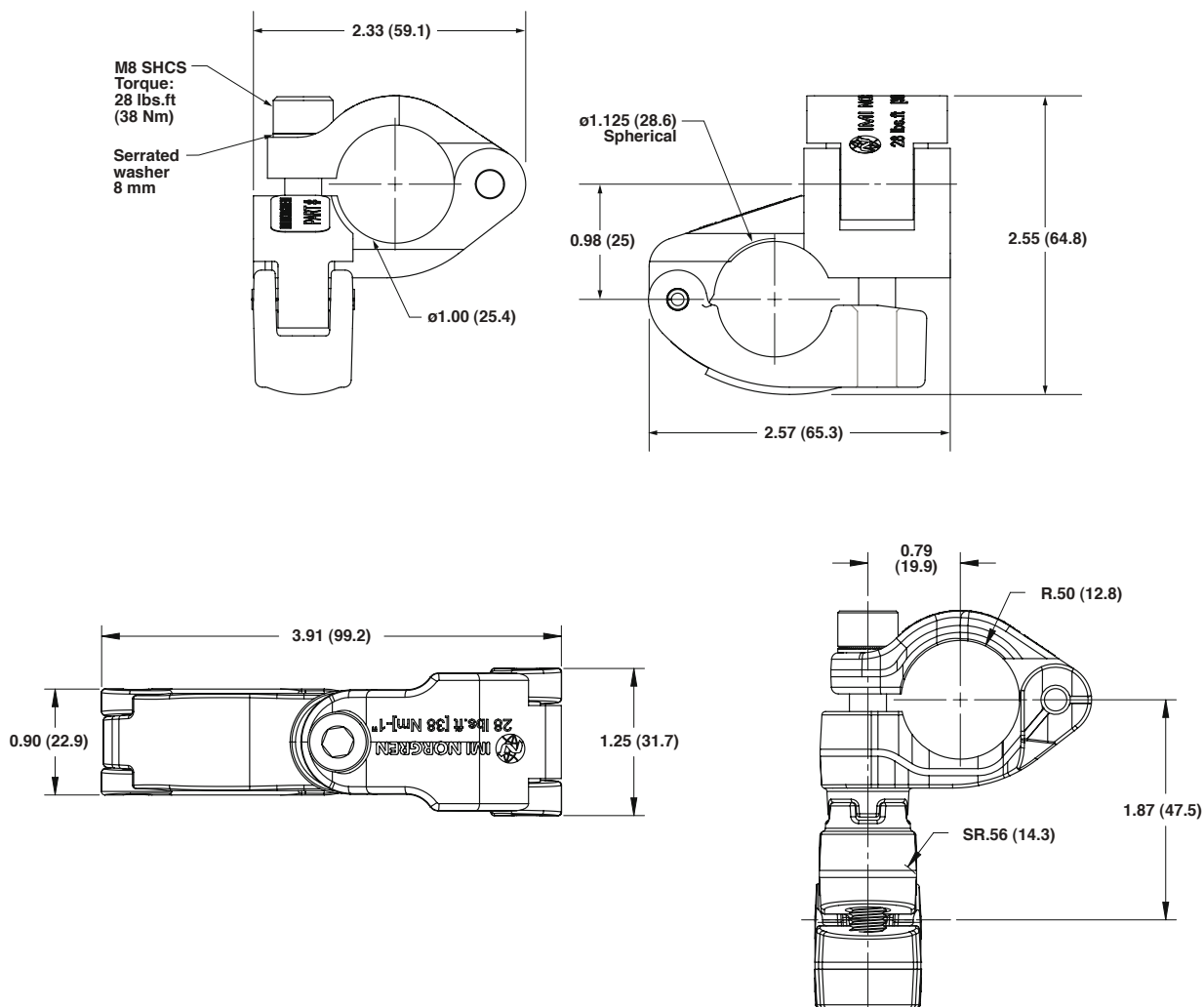
LWBC10EXXX

Length (mm)	Code
25	0025



#### Application notes

Load limits of 50 lbs-ft (67.5 Nm) recommended for 1.00" ball clamp.  
Weight 0.35 lbs. (0.16 Kg)



&gt; 1.00" diameter aluminum tubing

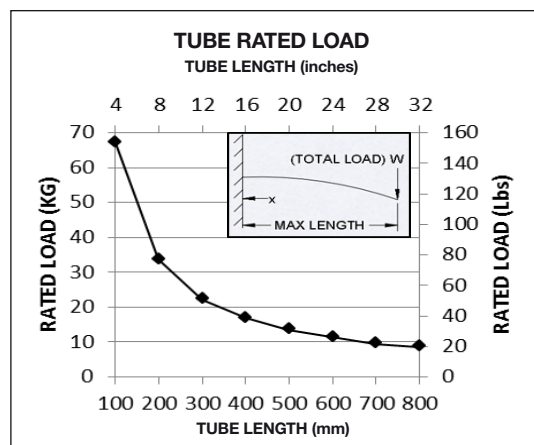
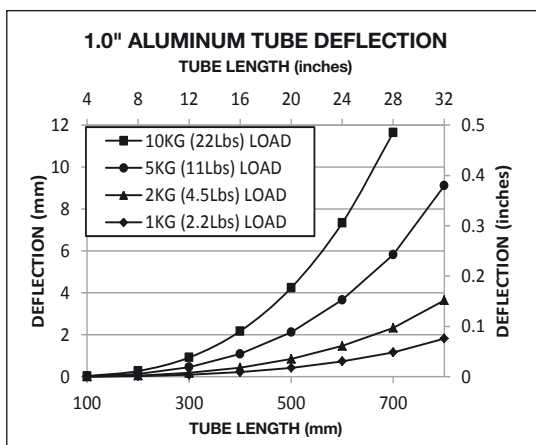
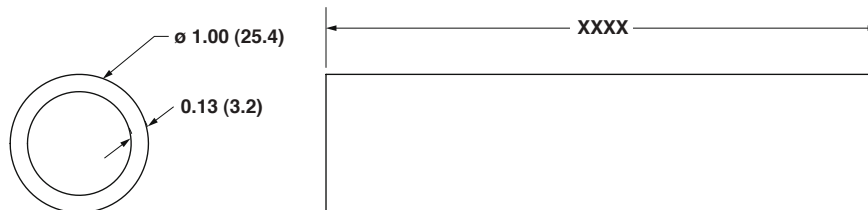
**Order information:****LWTA10EXXX**

Length*	Code
100	0100
XXXX	XXXX
3650	3650

\*Lengths available: 100 mm to 3650 mm in 25 mm increments

**Application notes**

Tubes weight 0.03 lbs/in (589 g/m)



> 1.50" diameter aluminum tubing



## Order information:

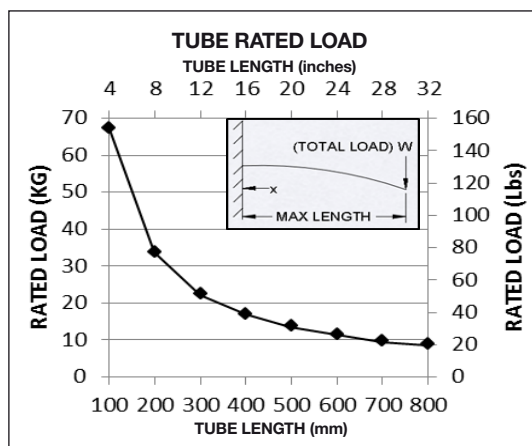
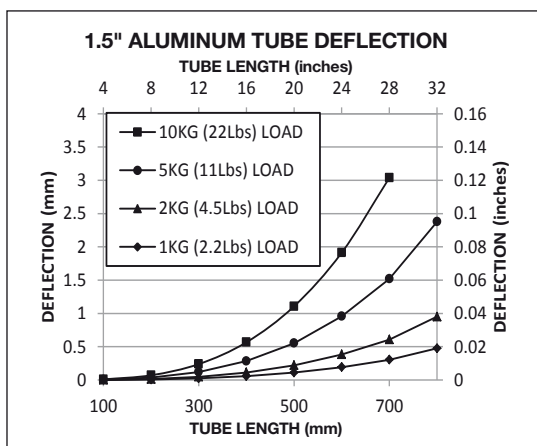
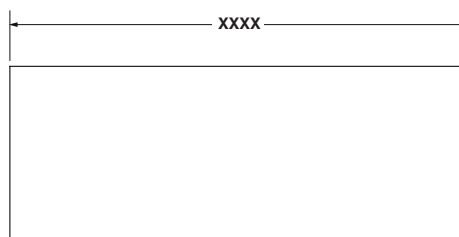
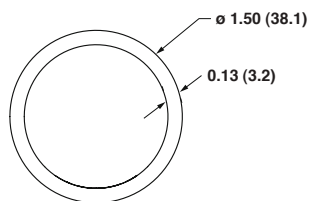
LWTA15EXXXX

Length*	Code
100	0100
XXXX	XXXX
3650	3650

\*Lengths available: 100 mm to 3650 mm in 25 mm increments

## Application notes

Tubes weight 0.05 lbs/in (928 g/m)



&gt; 1.00" diameter steel tubing

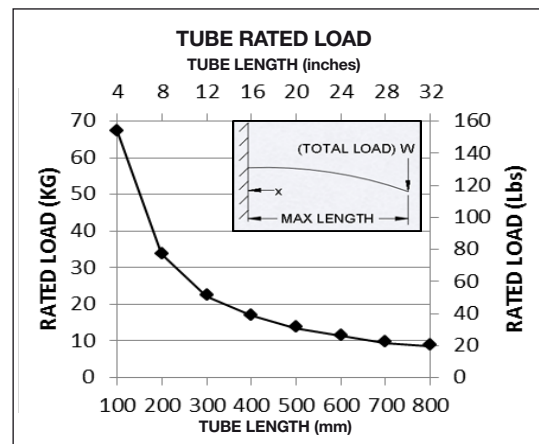
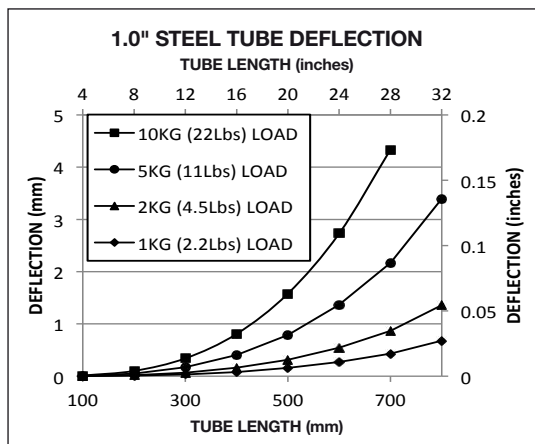
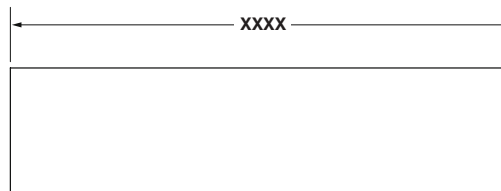
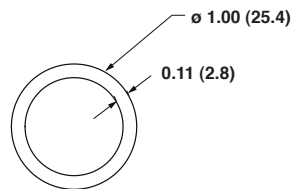
**Order information:****LWTS10EXXXX**

Length*	Code
100	0100
XXXX	XXXX
3650	3650

\*Lengths available: 100 mm to 3650 mm in 25 mm increments

**Application notes**

Tubes weight 0.09 lbs/in (1607 g/m)





This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## Warning

These products are intended for use in industrial systems only. Do not use these products where pressures and temperatures can exceed those listed under Specifications.

Before using these products with fluids other than those specified, for nonindustrial applications, life-support systems, or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure modes.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products, or posted on the Norgren website under "Downloads." System designers should also provide for all OSHA requirements including Title 29 CFR 1910.147 Lockout/Tagout.

It should be recognized that warnings are valid for any product, regardless of manufacturer, and are not restricted to products manufactured by Norgren. Norgren's reputation for product quality and performance is well established. We feel we have the additional obligation to provide information or warnings to customers to assist them in applying our products in a reasonable and safe manner.

**Proposition 65:** These products may contain chemicals known to the state of California to cause cancer, or birth defects, or other reproductive harm.

## Warranty

Items sold by Norgren are warranted to be free from defects in materials and workmanship for a period of two years\* from the date of invoice, provided said items are used according to Norgren's recommended usages. NORGREN'S LIABILITY IS LIMITED TO THE REPAIR OF, REFUND OF PURCHASE PRICE PAID FOR, OR REPLACEMENT IN KIND OF, AT NORGREN'S SOLE OPTION, ANY ITEMS PROVED DEFECTIVE, PROVIDED THE ALLEGEDLY DEFECTIVE ITEMS ARE RETURNED TO NORGREN PREPAID. THE WARRANTIES EXPRESSED ABOVE ARE IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, EXCEPT AS STATED HEREIN.

THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE SPECIFICALLY DISCLAIMED. NORGREN'S LIABILITY FOR BREACH OF WARRANTY AS HEREIN STATED IS THE EXCLUSIVE REMEDY, AND IN NO EVENT SHALL NORGREN BE LIABLE OR RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF THE POSSIBILITY OF SUCH INCIDENTAL OR CONSEQUENTIAL DAMAGES HAS BEEN MADE KNOWN TO NORGREN.

Norgren reserves the right to discontinue manufacture of any product or change product materials, design, or specifications.

# Featherweight Tooling

800.272.4511

NASInsideSales@imi-precision.com

[www.imi-precision.com/autoinplant](http://www.imi-precision.com/autoinplant)

Norgren, Buschjost, FAS, Herion and Maxseal are registered trademarks of IMI Precision Engineering companies.

©Norgren Automation Solutions, LLC 2020

Due to our policy of continuous development, IMI Precision Engineering reserve the right to change specifications without prior notice.

z7403CT us/2/2020

Selected Images used under license from Shutterstock.com

*Engineering  
GREAT  
Solutions*

 **IMI NORGREN**

 **IMI BUSCHJOST**

 **IMI FAS**

 **IMI HERION**

 **IMI MAXSEAL**