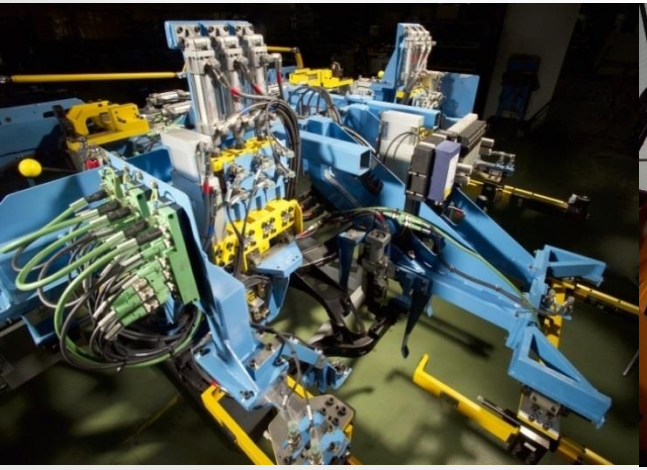
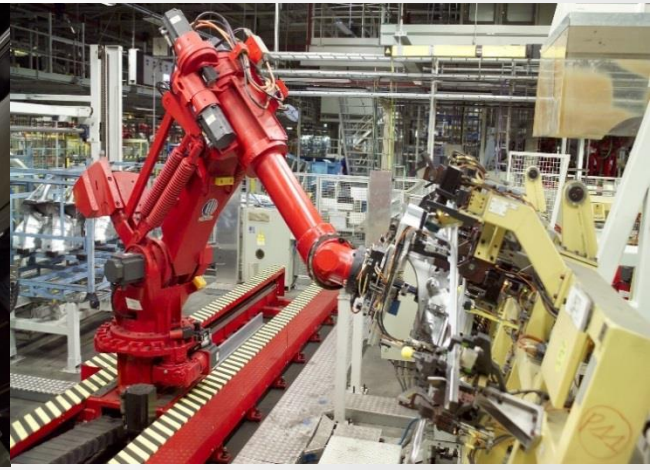
# VDL Steelweld

## Meet gereedschap Quality Control





# VDL Steelweld

3x Vantage mobile Laser tracker systems

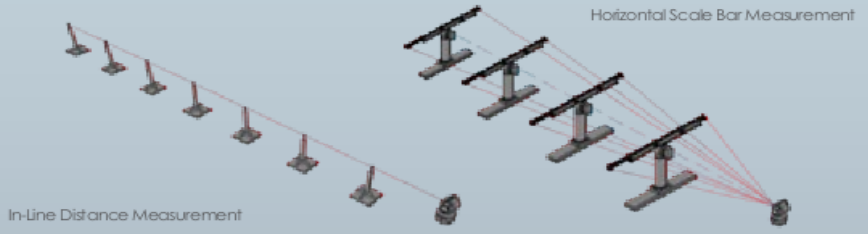
laser tracker technology

FARO Vantage

## Point to Point Accuracy***

| In-Line Distance Measurement | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Length | | 2-5m (6.6-16.4ft) | 2-10m (6.6-32.8ft) | 2-20m (6.6-65.6ft) | 2-30m (6.6-98.4ft) | 2-40m (6.6-131.2ft) | 2-60m (6.6-196.9ft) | 2-80*m (6.6-262.5ft) |
| Distance | | 3m (9.8ft) | 8m (26.2ft) | 18m (59ft) | 28m (91.9ft) | 38m (124.7ft) | 58m (190.3ft) | 78m (255.9ft) |
| ADM | MPE | 0.018mm (0.0007") | 0.022mm (0.0009") | 0.030mm (0.0012") | 0.038mm (0.0015") | 0.046mm (0.0018") | 0.062mm (0.0025") | 0.078mm (0.0031") |
| | Typical | 0.009mm (0.0004") | 0.011mm (0.0004") | 0.015mm (0.0006") | 0.019mm (0.0008") | 0.023mm (0.0009") | 0.031mm (0.0012") | 0.039mm (0.0015") |

*With selected targets. **Product complies with radiation performance standards under the food, drug, and cosmetics act and international standard IEC 60825-1 2001-08. ***MPE and all accuracy specifications are calculated per ASME B89.4.19 - 2006. Variation in air temperature is not included. Specifications, descriptions, and technical data may be subject to change. ****With integrated weather station. Protected by U.S. patents: 7,327,446 7,352,446 7,466,401 7,701,559 8,040,525 8,120,780




| Horizontal Scale Bar Measurement (2.3m, 7.55ft) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Range | | 2m (6.6ft) | 5m (16.4ft) | 10m (32.8ft) | 20m (65.6ft) | 30m (98.4ft) | 40m (131.2ft) | 60m (196.9ft) | 80*m (262.5ft) |
| ADM | MPE | 0.044mm (0.0017") | 0.064mm (0.0025") | 0.099mm (0.0039") | 0.170mm (0.0067") | 0.240mm (0.0095") | 0.311mm (0.0122") | 0.453mm (0.0178") | 0.594mm (0.0234") |
| | Typical | 0.022mm (0.0009") | 0.032mm (0.0013") | 0.049mm (0.0019") | 0.085mm (0.0033") | 0.120mm (0.0047") | 0.156mm (0.0061") | 0.226mm (0.0089") | 0.297mm (0.0117) |

# VDL Steelweld

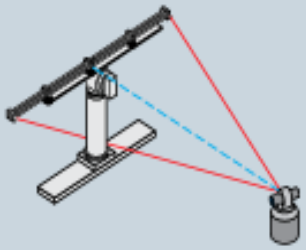
1x ION mobile Laser tracker system


laser tracker technology

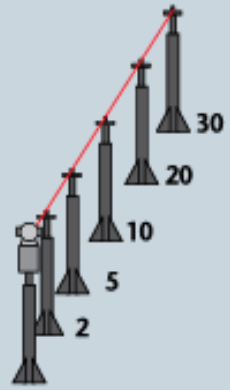
**FARO Laser Tracker ION™**

## Point-to-Point Typical Accuracy***

| Horizontal Scale Bar Measurement (2.3 m) | | |
|---|---|---|
| Range (m) | ADM (mm) | IFM (mm) |
| 2 | 0.022 | 0.021 |
| 5 | 0.032 | 0.032 |
| 10 | 0.049 | 0.049 |
| 20 | 0.085 | 0.085 |
| 30 | 0.120 | 0.120 |
| 40 | 0.156 | 0.156 |
| 50* | 0.191 | 0.191 |
| 55* | 0.209 | 0.209 |



| In-Line Distance Measurement | | | |
|---|---|---|---|
| Length (m) | Distance (m) | ADM (mm) | IFM (mm) |
| 2 - 5 | 3 | 0.009 | 0.003 |
| 2 - 10 | 8 | 0.011 | 0.005 |
| 2 - 20 | 18 | 0.015 | 0.009 |
| 2 - 30 | 28 | 0.019 | 0.013 |
| 2 - 40 | 38 | 0.023 | 0.017 |
| 2 - 50* | 48 | 0.027 | 0.021 |
| 2 - 55* | 53 | 0.029 | 0.023 |



# VDL Steelweld

1x Focus mobile Laser Scanner system

## Laser Scanner Focus$^{3D}$ X 130


### Performance Specifications Focus$^{3D}$ X 130

**Ranging unit**

| | |
|---|---|
| Unambiguity interval: | >130m |
| Range Focus$^{3D}$ X 130: | 0.6m - 130m indoor or outdoor with upright incidence to a 90% reflective surface |
| Measurement speed (pts/sec): | 122,000 / 244,000 / 488,000 / 976,000 |
| Ranging error[1]: | ±2mm |

| Ranging noise[2] | @10m | @10m - noise compressed[3] | @25m | @25m - noise compressed[3] |
|---|---|---|---|---|
| @ 90% refl. | 0.3mm | 0.15mm | 0.3mm | 0.15mm |
| @ 10% refl. | 0.4mm | 0.2mm | 0.5mm | 0.25mm |

**Colour unit**

| | |
|---|---|
| Resolution: | Up to 70 megapixel colour |
| Dynamic colour feature: | Automatic adaption of brightness |
| Parallax: | Co-axial design |

**Deflection unit**

| | |
|---|---|
| Field of view (vertical/horizontal): | 300° / 360° |
| Step size (vertical/horizontal): | 0.009° (40,960 3D-Pixel on 360°) / 0.009° (40.960 3D-Pixel on 360°) |
| Max. vertical scan speed: | 5.820rpm or 97Hz |

**Laser (optical transmitter)**

| | |
|---|---|
| Laser class: | Laser class 1 |
| Wavelength: | 1550nm |
| Beam divergence: | Typical 0.19mrad (0.011°) (1/e, halfangle) |
| Beam diameter at exit: | Typical 2.25mm (1/e) |

**Data handling and control**

| | |
|---|---|
| Data storage: | SD, SDHC™, SDXC™; 32GB card included |
| Scanner control: | Via touchscreen display and WLAN |
| New WLAN access: | Remote control, scan visualisation are possible on mobile devices with Flash® |

**Multi-Sensor**

| | |
|---|---|
| Dual axis compensator: | Levels each scan: Accuracy 0.015°; Range ± 5° |
| Height sensor: | Via an electronic barometer the height relative to a fixed point can be detected and added to a scan. |
| Compass[4]: | The electronic compass gives the scan an orientation. A calibration feature is included. |
| GPS: | Integrated GPS receiver |

CLASS 1 LASER PRODUCT

[1] Ranging error is defined as a systematic measurement error at around 10m and 25m, one sigma [2]Ranging noise is defined as a standard deviation of values about the best-fit plane for measurement speed of 122,000 points/sec.[3] A noise-compression algorithm may be activated thereby compressing raw data noise by a factor of 2 or 4. Subject to change without prior notice .[4]Ferromagnetic objects can disturb the earth magnetic field and lead to inaccurate measurements

# VDL Steelweld

1x Edge mobile ScanArm system


## Edge ScanArm® HD

### FARO LASER LINE PROBE SPECIFICATIONS

| | | | |
|---|---|---|---|
| **Accuracy:** | ±25µm (±0.0008") | **Points per line:** | 2,000 points/line |
| **Repeatability:** | 25µm, 2σ (0.01") | **Minimum point spacing:** | 40µm, (0.0015") |
| **Stand-off:** | 115mm (4.5") | **Scan rate:** | 280 frames/second, 280fps x 2,000 points/line = 560,000 points/sec |
| **Depth of field:** | 115mm (4.5") | | |
| **Effective scan width:** | Near field 80mm (3.1") Far field 150mm (5.9") | **Laser:** | Class 2M |
| | | **Weight:** | 485g (1.1lbs.) |

# VDL Steelweld

1x Prime mobile Arm system


FARO® Prime

## Product specificaties

| Meetbereik | | Herhaalbaarheid[1] | Nauwkeurigheid[2] | Gewicht |
|---|---|---|---|---|
| Assen | | 6 | 6 | 6 |
| Prime | 1.8 m (6 ft.) | 0.019 mm (0.0007 in.) | ±0.027 mm (±0.0011 in.) | 9.3 kg (20.5 lbs.) |

# VDL Steelweld

STIEFELMAYER

2x coordinate measuring machines
(Conditioned environment)

measuring range [mm]
X: 6000
Y: 1600
Z: 1800