DRS

Integrated Production Systems for Traffic Signs

DRS 54 BASIC

DRS 62 STANDARD

DRS 64 PRO / PRO +











DRS

www.drstraffic.com

Notes:

Integrated Production Systems for Traffic Signs

Integart's primary mission is modernizing your traffic sign production process. Your decision will benefit almost all processes in your factory, as we guarantee complete satisfaction with our DRS manufacturing solution. We want you to be comfortable from the minute you start talking to us. Our sales team will make sure that you fully understand what goes into each system as well as what makes it so unique. We will be happy to explain the advantages DRS can bring to your existing set up. The team will also gladly discuss other options we provide; including software, printing, laminating, cutting application and any other components that go into our digital traffic sign fabrication system.

Our company is confident that once you see how we operate, you will also want to be our partner for supplies, accessories and components that you use for your business. We take such partnerships very seriously which is why we provide all of our clients with excellent quality service and workmanship through our Integart Customer Service Centre. Existing clients can seek help with questions related to operation or job setup on the phone, via e-mail or Skype.

We provide you with very advanced technology that conforms to EN and ASTM specifications. Our R&D team is focused on providing smooth and efficient fabrication of clear, highly reflective and bright traffic signage. This signage will be able to withstand harsh climate conditions and prolonged outdoor exposure. The tight integration of DRS ensures that you are getting a system that is specifically designed to work in your field while passing international standards and requirements. We continually develop our control systems, offering you upgrades to your firmware and software so that your system stays current with what we are shipping out of our factory doors.

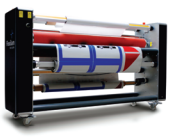


DRS 54 BASIC

HP L310 | Latex Printer



DRS 165L | Laminator



SUMMA F1612 | Cutter



DRS 340A | Applicator

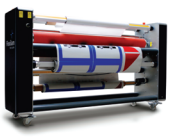


DRS 62 STANDARD

HP L360 | Latex Printer



DRS 165L | Laminator



SUMMA F1612 | Cutter



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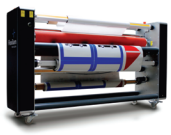


DRS 64 PRO / PRO+

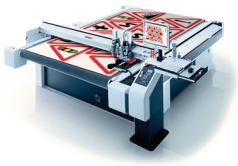
HP L370 | Latex Printer



DRS 165L | Laminator



ZÜND G3 | Cutter



DRS 340A | Applicator

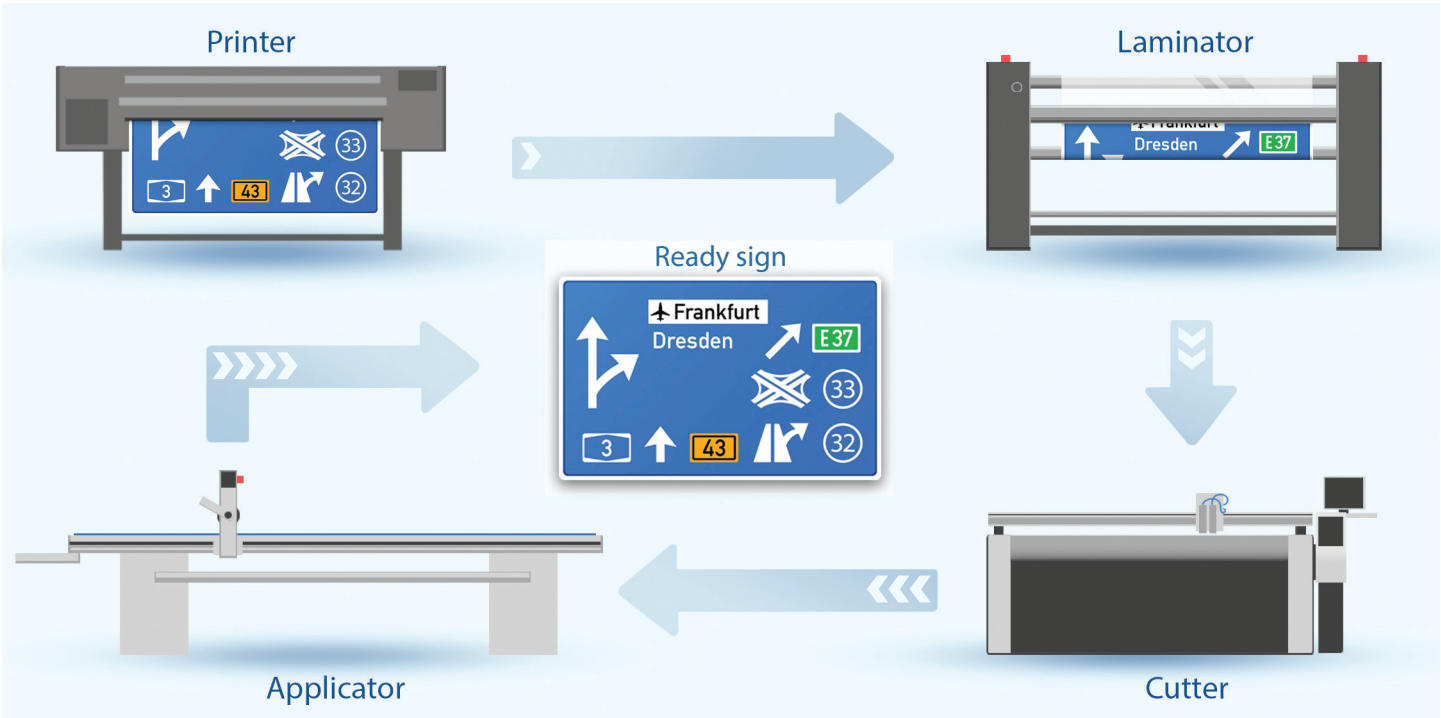


ZÜND G3 | Cutter with Routing Module



DRS 64 PRO System can be expanded with the Routing Module for cutting metal sheets with the Zünd G3 Cutter. This configuration is branded as DRS 64 PRO+.

Production in four easy steps



DRS SYSTEM

The DRS System is an advanced solution for the fabrication of traffic and work-zone signs. This highly efficient system was designed to service a broad spectrum of companies. Each System includes a printer, laminator, flatbed cutter, applicator as well as the appropriate software. DRS System takes advantage of third generation HP Latex printing technology. Printouts are protected by Integart's specially formulated DRS Laminate to obtain a unified set of compatible components (USCC) covered by Integart's 12 year warranty. DRS System is designed as an "Open Source" concept and supports various grades of reflective sheeting from different manufacturers.

DESIGN & PRODUCTION

When designing a traffic sign, you can work with your favoured software (AutoCAD, Desktop CAD, Impact CAD, CorelDraw, etc.) and use ready libraries of locally specified signs and fonts. DRS Workstation is based on specialized RIP software. Automatic advanced nesting software reduces material waste to a minimum. Integart provides you with ready profiles for different types of reflective sheeting to achieve optimum printability, curing, colour coordination and appropriate level of retro-reflectivity. DRS System uses one set of CMYK HP Latex inks to print on all types and grades of reflective sheeting, for both permanent and temporary signs. To run efficient production only two reflective sheeting colours are required - white and yellow. All other colour combinations are obtained through printing. Apart from typical traffic signs, DRS System will print work-zone, parking, identification, safety, warning and guide signs, full colour reflective billboards, city information maps, labels, street signs, tags and license plates. A built-in optical sensor (spectrophotometer) provides colour uniformity and repeatability on each and every printout. Prints are waterproof and durable. With a treatment done by the Ink Optimizer, printed traffic sign faces have enhanced resistance to abrasion. They can be used as temporary work-zone signs even with no laminate applied. Integart covers them with a 3 year warranty. For permanent traffic signs, it is recommended to protect all printouts with DRS Laminate. Laminated traffic sign faces are ready for immediate installation on either aluminium or steel sheets. Integart provides a 12 year warranty for the DRS laminated signs because of their excellent durability. This warranty covers UV radiation, abrasion and delamination resistance. It also covers chromaticity and retro-reflectivity parameters in compliance with ASTM, EN, BS, DIN*.

ADVANTAGES OF THE SYSTEM

DRS Technology effectively replaces use of silk-screen printing, eliminates tiresome overlay film applications and considerably minimizes set-up time and it could be run by two operators. Print-on-demand helps to improve customer service. Sign faces are printed full colour and can be mounted immediately after lamination. With an optimized workflow, DRS boosts productivity, cuts down on inventory in both, raw material and semi-finished product. You'd require less space and fewer personnel to do the same job. Integart's DRS System is recommended for low and high-volume production runs. It is easy to calculate cost of the job, unit cost of printing "one-offs" is identical to printing multiple pieces of the same kind. DRS is extremely flexible. New profiles for printing and cutting can be easily added or modified in order to adapt to particular job requirements.

* Some limitations apply.

HP L310 | Latex Printer





Dedicated Workstation

HP L310 is a high resolution Latex printer. Integart made it work to produce durable traffic and work-zone signs. HP L310 allows printing on all grades of reflective sheeting, both for permanent and temporary work-zone signs. L310 was designed for companies with monthly production volume up to 500 m^2 (5500 ft^2).

HP L310 prints on reflective sheeting from 580 mm (23 in) to a maximum width of 1370 mm (54 in). The print speed for quality permanent signs amounts to 12 m^2/h (129 ft^2/h) and for reflective work-zone signs up to 16 m^2/h (174 ft^2/h). HP L310 is user friendly, changing printheads can be easily done by the operator without losing time and generating additional service costs. Maximum print resolution is 1200 dpi. Reflective sheeting feeder handles up to 25 kg (55 lb). Specially formulated Latex ink eliminates the need for everyday maintenance, even after the long standstills. Water based inks are non-flammable and contain no hazardous air pollutants, require no special ventilation equipment or external dryer. HP L310 has the capacity to print full colour images on a variety of different materials.

Printer DRS HP L310 features:

- Roll-to-roll and roll-to-floor printing
- Computer workstation with SAI Flexi Print RIP
- "On the fly" ink replacement for easy job continuation
- Sign and Font Libraries dedicated for the local market

Technical specifications:

Media size	580 to 1370 mm (23 to 54 in) rolls with full support
Print resolution	Up to 1200 x 1200 dpi
Ink types	HP Latex Inks
Ink cartridges	Black, cyan, light cyan, light magenta, magenta, yellow, HP Latex Optimizer
Ink cartridge size	775 ml
Printheads	6 (2 cyan/black, 2 yellow/magenta, 1 light magenta/light cyan, 1 HP Latex Optimizer)
Print modes	16 m^2/h (174 ft^2/h) - (6 pass) Recommended for information signs, warning signs, nameplates, work-zone signs 10 m^2/h (108 ft^2/h) - High Quality (10 pass) Recommended for maps, directories 8 m^2/h (86 ft^2/h) - (12 pass) Recommended for all types of traffic signage and licence plates.
Media handling	Roll feed; take-up reel
Maximum media thickness	Up to 0.5 mm (19.7 mil)
Roll diameter	Up to 180 mm (7.1 in)
Maximum media weight	Up to 25 kg (55 lb)
Environmental ranges	Operating temperature: 15 to 30°C Operating humidity: 20 to 80% RH (non-condensing)
Power	2.2 kW (printing); < 2.5 W (sleep mode)
Printer dimensions (WxDxH)	2307 x 840 x 1380 mm (91 x 33 x 54 in)
Printer weight	174 kg (384 lb)

HP L360 | Latex Printer





Dedicated Workstation

HP L360 is a high resolution Latex printer. Integart made it work to produce durable traffic and work-zone signs. The printer allows printing on all grades of reflective sheeting, both for permanent and temporary work-zone signs. It is equipped with an electronic control panel – an 8-inch touchscreen. L360 is dedicated to mid-size companies with monthly production volume up to 900 m^2 (10 000 ft^2).

HP L360 prints on reflective sheeting from 580 mm up to maximum width of 1610 mm. The print speed for permanent traffic signs is 17m^2/h (183ft^2/h) and for reflective information signs and work-zone signs up to 31m^2/h (334ft^2/h). The printer is user friendly and intuitive, changing heads can be easily done by the operator without losing time and money for service intervention. Maximum print resolution is 1200 dpi. A robust feeder intake is designed to handle rolls of reflective sheeting up to 42 kg (92.6 lb). Specially formulated Latex ink eliminates the need for everyday maintenance, even after the long standstills. Water based inks are non-flammable and contain no hazardous air pollutants (HAPs), require no special ventilation equipment or external dryers. The printer has EN/GOST/CSA/CCC certification. The HP Mobile application relies on alerts to inform you when attention is needed. The printer, in addition to traffic signage, has the capacity to print full colour images on a variety of different materials.

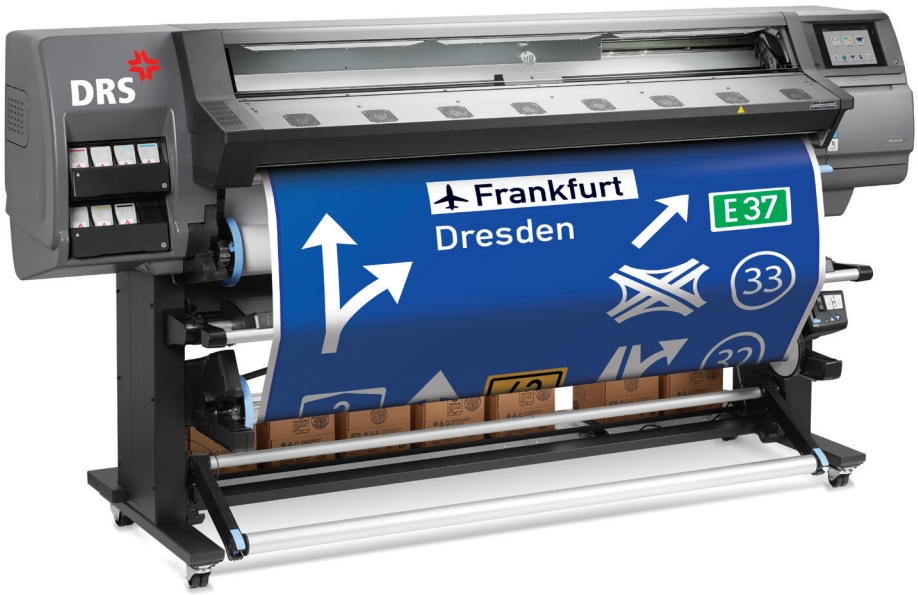
Printer DRS HP L360 features:

- Roll-to-roll and roll-to-floor printing
- Robust Feeder material intake up to 42 kg (92.6 lb)
- Spectrophotometer for ICC profiling
- Computer Workstation with Caldera Visual RIP
- Optical Media Advance Sensor (OMAS) for media positioning
- Printhead auto rinsing with minimized ink amount
- "On the fly" ink replacement for easy job continuation
- Sign and Font Libraries dedicated to the local market

Technical specifications:

Media size	580 to 1610 mm (23 to 64 in) rolls with full support
Print resolution	Up to 1200 x 1200 dpi
Ink cartridges	Black, cyan, light cyan, light magenta, magenta, yellow, HP Latex Optimizer
Ink types	HP Latex Inks
Ink cartridge size	775 ml
Printheads	6 (2 cyan/black, 2 yellow/magenta, 1 light magenta/light cyan, 1 HP Latex Optimizer)
Print modes	31 m^2/h (334 ft^2/h) - High Speed (4 pass): Recommended for work-zone signs
	23 m^2/h (248 ft^2/h) - (6 pass): Recommended for information signs, warning signs, nameplates
	14 m^2/h (151 ft^2/h) - High Quality (10 pass): Recommended for maps, directories
	12 m^2/h (129 ft^2/h) - (12 pass): Recommended for traffic signage and licence plates
Media handling	Roll feed; take-up reel; automatic cutter (for reflective sheeting, vinyl, polyester film)
Maximum media thickness	Up to 0.5 mm (19.7 mil)
Roll diameter	Up to 250 mm (9.8 in)
Maximum media weight	Up to 42 kg (92.6 lb)
Environmental ranges	Operating temperature: 15 to 30°C (59 to 86°F) Operating humidity: 20 to 80% RH (non-condensing)
Power	4.6 kW (printing); < 2.5 W (sleep mode)
Printer dimensions (WxDxH)	2561 x 840 x 1380 mm (101 x 33 x 54 in)
Printer weight	207 kg (456 lb)

HP L370 | Latex Printer





Dedicated Workstation

Superb high speed industrial printer perfectly suited to handle large projects. It was specially designed for companies with a big workflow. HP L370 is recommended for companies with monthly production up to 1200 m^2 (13 000 ft^2). You can produce durable traffic and work-zone signs on all types and almost all brands of reflective sheeting. DRS HP L370 is designed for "round-the-clock" operation with an excellent quality at a very low cost.

It is equipped with an electronic control panel – an 8-inch touch-screen and embedded spectrophotometer for easy ICC profiling and colour uniformity on every print-out. New robust feeder intake is designed to handle rolls of reflective sheeting up to 42kg (92.6 lb).

Printed signs have scratch resistance comparable to silk-screen. 3-litre high-capacity ink cartridge containers reduce costs and allow unattended printing. Water based Latex inks are non-flammable and contain no hazardous air pollutants, require no special ventilation equipment or external dryer.

Integart offers DRS HP L370 state of the art technology for demanding customers and the most complex traffic sign projects.

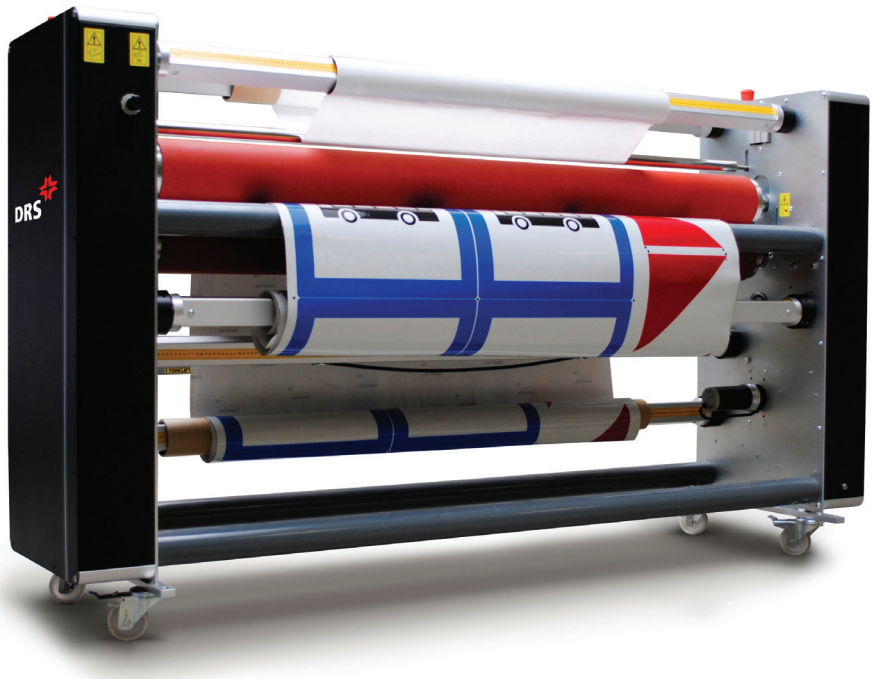
Printer DRS HP L370 features:

- 3-litre ink containers – significant print cost reduction per 1 sq. m.
- Roll-to-roll and roll-to-floor printing
- Robust Feeder material intake up to 42 kg (92.6 lb)
- Simplified and automated colour management
- Spectrophotometer for ICC profiling
- Computer Workstation with Caldera Visual RIP
- Optical Media Advance Sensor (OMAS) for media positioning
- Printhead auto rinsing with minimized ink amount
- "On the fly" ink replacement for easy job continuation
- HP Latex Mobile application for remote data analysis
- Pre-installed generic substrate profile library
- Pre-installed Sign Libraries and fonts for the local market

Technical specifications:

Media size	580 to 1610 mm (23 to 64 in) rolls with full support
Print resolution	Up to 1200 x 1200 dpi
Ink types	HP Latex Inks
Ink cartridge size	3 litre
Ink cartridges	Black, cyan, light cyan, light magenta, magenta, yellow, HP Latex Optimizer
Printheads	6 (2 cyan/black, 2 yellow/magenta, 1 light magenta/light cyan, 1 HP Latex Optimizer)
Print modes	31 m^2/h (334 ft^2/h) - High Speed (4 pass) Recommended for work-zone signs
	23 m^2/h (248 ft^2/h) - (6 pass) Recommended for information signs, warning signs, nameplates
	14 m^2/h (151 ft^2/h) - High Quality (10 pass) Recommended for maps, directories
	12 m^2/h (129 ft^2/h) - (12 pass) Recommended for traffic signage
Media handling	Roll feed; take-up reel; automatic cutter (for reflective sheeting, vinyl, polyester film)
Maximum media thickness	Up to 0.5 mm (32 mil)
Roll diameter	Up to 250 mm (9.8 in)
Maximum media weight	Up to 42 kg (92.6 lb)
Environmental ranges	Operating temperature: 15 to 30°C (59 to 86°F) Operating humidity: 20 to 80% RH (non-condensing)
Power	4.6 kW (printing); < 2.5 W (sleep mode)
Printer dimensions (WxDxH)	2561 x 840 x 1380 mm (101 x 33 x 54 in)
Printer weight	231.5 kg (510 lb)

DRS 165L | Laminator

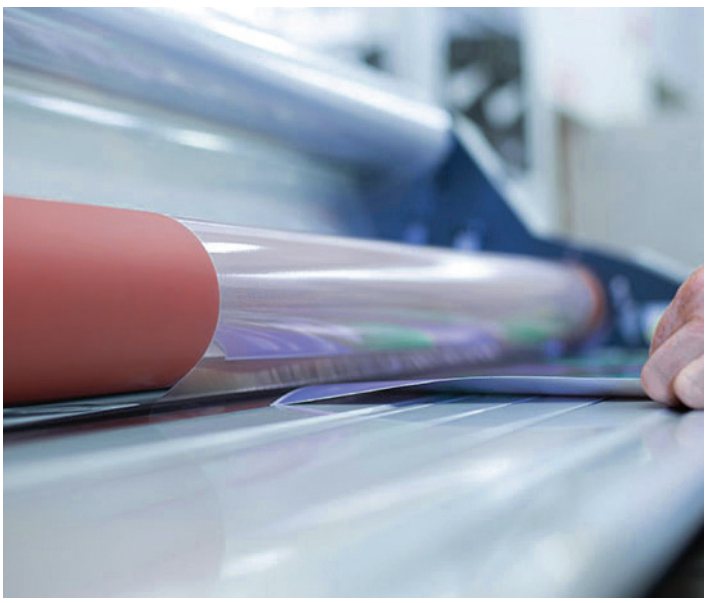


DRS 165L is an advanced laminator that utilizes pneumatic pressure. With its fully adjustable temperature, speed and pressure settings, this laminator is ideal for the professional user who requires a highly versatile unit. With its robust, free standing design, auto grip shafts, adjustable temperature, as well as both speed and pressure settings, this laminator is ideal for the traffic sign manufacturer.

To protect printed sign faces from abrasion and UV radiation and to obtain additional enhancing functionalities like: anti-graffiti, anti-dust, anti-dew, it is important to go through lamination process. DRS 165L Laminator is equipped with easy to clean EPDM durable rollers. It enables "roll-to-roll" or "roll-to-sheet" lamination. Unit has ergonomic "touch pad" control panel and foot switch for hands-free operation. Additional shaft pre-loading system makes substrate loading easy and safe for the operator.

Technical specifications:

Maximum working width	1650 mm (65 in)
Maximum speed	6 m/min (19.7 ft/min) standard, 8 m/min (26 ft/min) optional
Nip pressure	0.36 - 3.5 N/mm
Maximum substrate thickness	Up to 40 mm (1.5 in)
Maximum roller temperature	70°C (158°F)
Roller diameter	140 mm (5.5 in)
Laminator dimensions (WxD)	2200x1220 mm (86.5 x 48 in)
Working height	800 mm (31.5 in)
Net weight	350 kg (771 lb)
Electrical requirements	1 + N/PE 230 V ±10%, 50/60 Hz 16 A



DRS USCC

Printouts are protected by DRS Laminates to obtain a unified set of compatible components (USCC) covered by Integart's 12 year warranty.

SUMMA F1612 | Cutter



Summa F1612 is a flatbed cutter designed for operations of all sizes. It delivers highest class performance and functionality built into an ergonomically designed compact construction. Summa will cut through or "kiss cut" all types of reflective sheeting available on the market. The plotter is equipped with a conveyor belt responsible for automatic substrate transportation during the cutting process. Proper material adherence secured by the vacuum table allows for accurate marking recognition. This is done by the optical camera, also included in the set. The camera delivers information about actual position of the material when it reads the marks. This enables automatic compensation for the eventual material slide. Automated roll-feed, calibration and tool initialization secure unattended production of traffic sign faces with minimal human operator engagement.

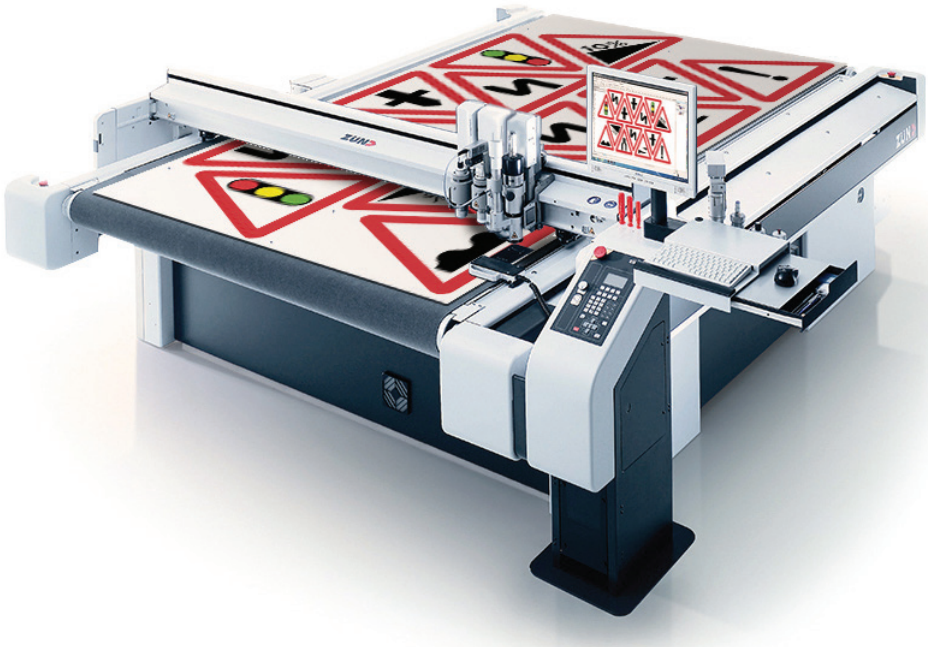


Technical specifications:

Maximum working area	1600 x 1200mm (63 x 47.2 in)
Maximum speed	1.0 m/s
Maximum substrate thickness	25 mm (1 in)
Position accuracy	±0.05 mm
Net weight	900 kg (1984.16 lb)
Width (incl. workstation)	2350 mm (92.5 in)
Length	1960 mm (77.2 in)
Environmental ranges	Operating temperature: 15 to 35°C (59 to 95°F) Operating humidity: 30-70% RH
Electrical requirements	3+N/PE, 400 V, 50/60 Hz, 32 A

ZÜND G3 | Cutter

ZÜND
swiss cutting systems



Flatbed Cutter ZÜND G3 enables precise cutting of previously laminated sign faces. Thanks to the optical camera detecting and following crop marks, cutting is easy and fully automated. Cutter is equipped with a vacuum table, conveyor belt and roll-off unit, enabling automatic loading of the material from the roll. Cutting is done by the multifunctional head with active blades. All tools can be calibrated and position fully regulated. Maximum blade pressure is 20 kg (44 lb). All types of reflective sheeting can be cut completely through or "kiss cut". Cutter workstation is run by dedicated ZCC Software and advanced controller with electronic control panel. It has a visual, intuitive user interface. Material profiles and cutter configuration eliminates trial and error and reduces operator input.



Technical specifications:

Maximum working area	1330 x 1600 mm (52.4 in x 63 in)
Maximum speed	1.4 m/s
Maximum substrate thickness	50 mm (2 in)
Position accuracy	±0.1 mm/m
Net weight	670 kg (1477 lb)
Width (incl. workstation)	2355 mm (92.7 in)
Length	2512 mm (99 in)
Environmental ranges	Operating temperature: 10 to 35°C (50 to 95°F) Operating humidity: 10 to 80% RH (non-condensing)
Electrical requirements	3+N/PE, 400 V, 50/60 Hz, 32 A

ZÜND G3 | Cutter

with Routing Module





Flatbed Cutter ZÜND G3 can be upgraded with the Routing Module. Within this configuration it becomes part of System DRS 64 PRO +, giving the traffic sign manufacturer additional abilities. In addition to cutting printed sign faces, it can also mill sign blanks from a variety of different materials such as aluminium, composite, plastic panels, to name a few.

The Routing Module includes: active air-cooled, high-frequency spindle with 6 mm or ¼-inch collet, powerful chip removal with electronically-controlled dust collector and (optional) lubrication system. This Cutter configuration has material surface compensation for relative depth control.

Technical specifications:

Maximum working area	1330 x 1600 mm (52.4 in x 63 in)
Maximum speed	1.4 m/s
Maximum substrate thickness	50 mm (2 in)
Position accuracy	±0.1 mm/m
Net weight	670 kg (1477 lb)
Width (incl. workstation)	2355 mm (92.7 in)
Length	2512 mm (99 in)
Routing module	1kW, 50000 rpm
Environmental ranges	Operating temperature: 10 to 35°C (50 to 95°F) Operating humidity: 10 to 80% RH (non-condensing)
Electrical requirements	3+N/PE, 400 V, 50/60 Hz, 32 A



Routing Module with MQL

DRS 340A | Applicator

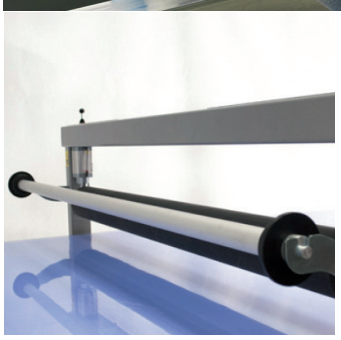


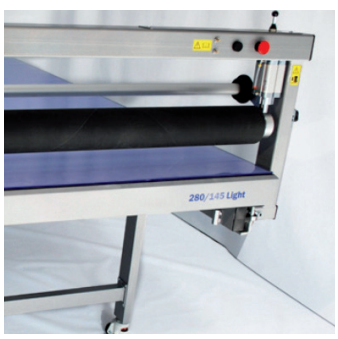
DRS 340A is a professional applicator specially designed for easy and precise application of reflective sheeting on a wide variety of substrates (steel and aluminium sheets, composites, plastic sheets). It is simple and reliable unit aimed to increase productivity and automate tedious and labour-intensive tasks. It is suitable for materials of up to 60 mm (2.36 in) thickness. Single operator can produce up to 80 m^2 (860 ft^2) per hour.

DRS 340A includes:

- table made of aluminium
- self-healing cutting mat
- pneumatic roller with control sticks at each end of the applicator beam







Technical specifications:

Bed length	3400 mm (134 in)
Bed width	1450 mm (57 in)
Working area length	3100 mm (122 in)
Working area width	1400 mm (55 in)
Working height flatbed	875 mm (34.5 in)
Maximum substrate thickness	60 mm (2.36 in)
Bed surface	aluminum + cutting mat
Required air pressure	6-8 bar (87-116 psi)
Net weight	270 kg (595 lb)

DRS gives full control from design to production

DRS System provides comfort and flexibility in design and full control of the production process.



Using the **Workstation**, operator controls and manages the print projects.



The **Printer** allows for continuous, full-colour print of traffic signs in any configuration.



The **Flatbed Cutter** makes precise and fast cut-through or "kiss cutting".

DRS Lab

At the DRS Innovation Centre, we provide the possibility of verifying print conformity to European and American regulations in regard to the coefficient of retro-reflectivity, luminance, chromaticity and weather resistance.



The External **Spectrophotometer** enables accurate measurements of colour coordinates of the printed traffic sign.



Thanks to the **Retroreflectometer**, the retro-reflection coefficient and luminance of the reflective materials can be precisely verified.



Accelerated Weathering Testing provides information on the durability of materials.



DRS Laminates

DRS UV Laminates

To obtain desired traffic standard durability, all digitally printed permanent traffic sign faces should be protected with suitable laminates. Within DRS product range we have four different laminate products matching the cost and durability of corresponding grades of the reflective sheeting.

DRS Laminate 100L

Laminate designed to have great UV blocking power, abrasion protection and also excellent adhesion to the printed face. A uniformly smooth surface enhances retro-reflectivity. A unique, specially formulated transparent adhesive helps to maintain film adherence and prevents delamination. DRS Laminate 100L has built-in anti-graffiti and anti-dust collection functionalities. Under winter conditions the special surface minimizes sign face snow cover. Print-outs protected with DRS Laminate 100L – thanks to unified set of compatible components (USCC) – are covered by an Integart 12 year warranty.

DRS Laminate 300L

Laminate designed to protect printed traffic sign faces from abrasion. DRS Laminate 300L maintains colour stability and consistency. Print-outs protected with DRS Laminate 300L are covered by an Integart 3 year warranty.

DRS Laminate 500L

Laminate designed to have UV blocking power, unique, transparent adhesive layer and smooth surface. DRS Laminate 500L provides protection of the printed traffic sign faces from abrasion while maintaining colour stability and consistency. It is dedicated for EG class reflective sheeting. Print-outs protected with DRS Laminate 500L are covered by an Integart 5 year warranty.

DRS Laminate 700L

Laminate designed to have impeccable UV blocking ability, unique, transparent adhesive layer and uniform smooth surface with built-in anti-graffiti functionality. DRS Laminate 700L maintains colour stability and protects printed traffic sign faces from abrasion. Print-outs protected with DRS Laminate 700L – thanks to unified set of compatible components (USCC) – are covered by an Integart 7 year warranty.



All technical developments in progress are constantly being incorporated into DRS System. Illustrations and descriptions are therefore subject to modification. All rights reserved on images and descriptions.
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Integart
DRS Innovation Centre

Europe:

Integart Sp. z o.o.
ul. Maszynowa 1
55-330 Błonie
POLAND
europe@drstraffic.com

North America:
Integart INC
172 Gulf Street
Milford, CT 06460,
USA
usa@drstraffic.com

WEB:
www. drstraffic.com