



360° SERVICE

Tips and Tricks

» Useful information on application technology



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Overview of current Hennecke mixheads

Update 1.17

Selection of criteria Types of Mixhead	Performance data			Dimensions*			
	Number of components	Laminar output with injection into open mould [cm ³ /s]	Mixture attachment to mould [cm ³ /s]	Height [mm]	Length [mm]	Width [mm]	Weight approx. [kg]

* Different depending on technical equipment

MT deflection mixheads, groove-controlled

	MT 3	2	3 - 20	20	215	100	90	4
	MT 6	2	8 - 50	50	290	195	80	8
	MT 8	2	25 - 150	300	395	170	130	17
	MT 12	2	50 - 300	600	400	175	130	17
	MT 12-4	4	50 - 300	600	410	205	185	24
	MT 18	2	125 - 600	1.200	450	200	140	24
	MT 18-4	4	125 - 600	-	450	215	185	31
	MT 22	2	250 - 950	2.000	570	256	160	38,7
	MT 22-6	6	200 - 750	-	600	330	220	46
	MT 26	2	300 - 1.300	2.600	570 / 660	260	185	48 / 50
MT 36	2	500 - 2.500	5.000	865	343	262	100	

MN linear mixheads, groove-controlled

	MN 6-3 RTM	3	-	6 - 80	65	155	65	4
	MN 6-3 CSM	3	6 - 40	-	65	155	65	4
	MN 8 CSM	2	20 - 160	-	90	20	165	7
	MN 10 CSM	2	15 - 250	-	175	400	175	14
	MN 10 RTM ²	2	-	15 - 250	130	378,5	180	18
	MN 10-3 RTM ²	3	-	15 - 250	130	378,5	180	18
	MN 10-4 CSM	4	30 - 250	-	175	300	175	13
	MN 14	2	50 - 300	-	125	335	190	14
	MN 16-4	4	-	500 - 3000	180	480	180	27
	MN 20-4	4	-	1.000 - 5.000	210	485	210	39
MN 30-4	4	-	2.000 - 10.000	225	545	225	48	

MX coaxial mixheads, groove-controlled

	MX 8	2	25 - 150	300	370	200	135	21
	MX 12	2	50 - 300	600	375	220	140	24
	MX 12-3	3	50 - 300	600	375	220	140	24
	MX 18	2	125 - 600	1000	415	240	140	31

Selection of criteria Types of Mixhead	Performance data			Dimensions*			
	Number of components	Laminar output with injection into open mould [cm ³ /s]	Mixture attachment to mould [cm ³ /s]	Height [mm]	Length [mm]	Width [mm]	Weight approx. [kg]

* Different depending on technical equipment

MD mixheads, pressure-controlled

	MD 11	2	250 - 1.000	-	55	105	220	2
	MD 16	2	70 - 1.000	-	55	105	220	2

Air-cleaned mixheads

	ML 12	2	150 - 600	-	175	150	100	7
	ML 18	2	1.000 - 3.500	-	200	160	160	9
	ML 25-4	4	2.000 - 9.000	-	225	150	225	20
	MXL 14	2	100 - 1.500	-	240	225	180	12
	MXL 25	2	750 - 5.000	-	300	285	235	21

Stirrer mixheads

	MEL-6C ¹	4 (+ 2)	7 - 500	-	830	320	350	86
	MEL-8C ¹	4 (+ 4)	7 - 260	-	540	340	175	30
	MSL	variabel	80 - 10.000	-	350-1.550	115-180	115 - 180	25-185
	MNR 42	2	1.500 - 7.500	-	1.570	560	300	270

* Different depending on technical equipment

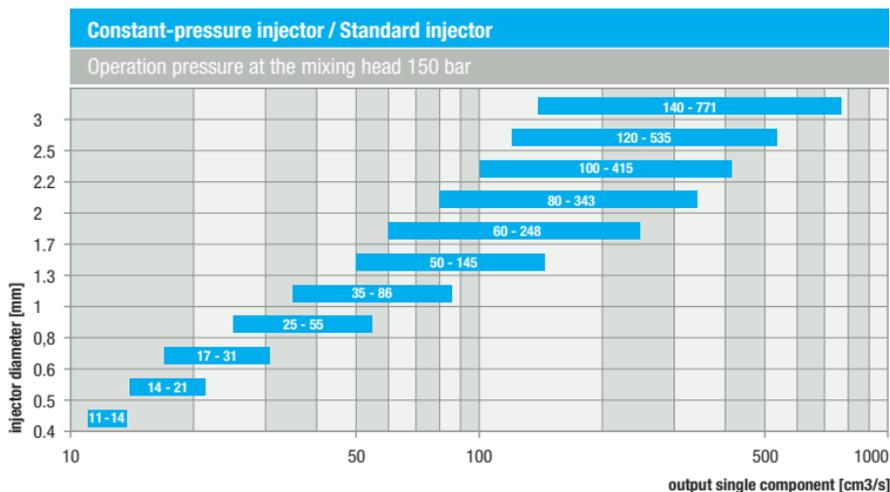
¹ For elastomer applications

² With wide slot nozzle

CSM Composite Spray Moulding

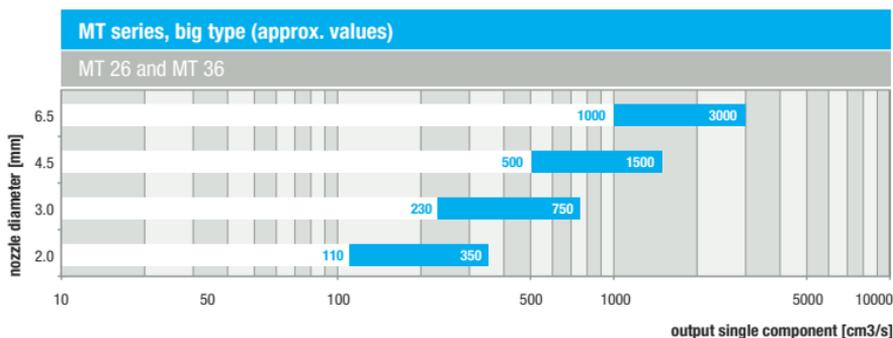
RTM Resin Transfer Moulding

Operation range of nozzles

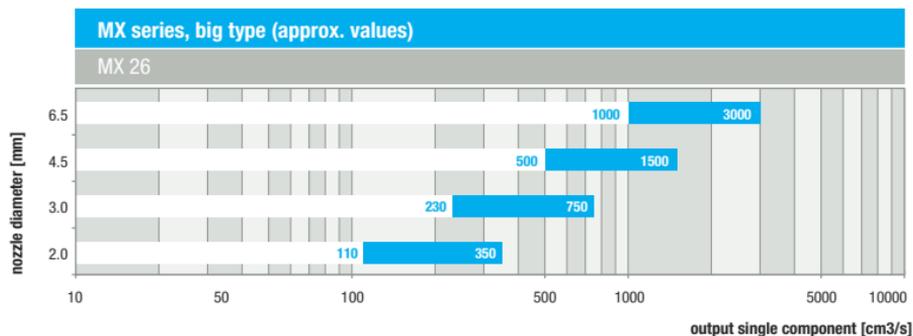


The information used applies to standard high pressure foam systems.
 The information could deflect by special specification.

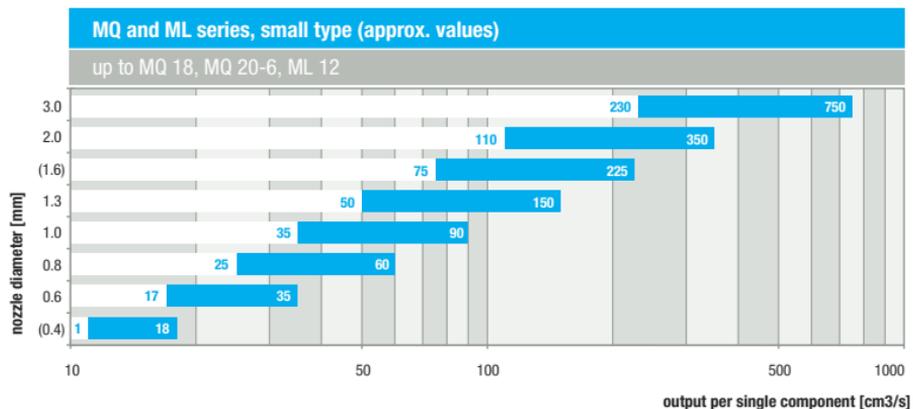
The indicated injector diameters are not available for all variants.



Always choose the smallest possible diameter!

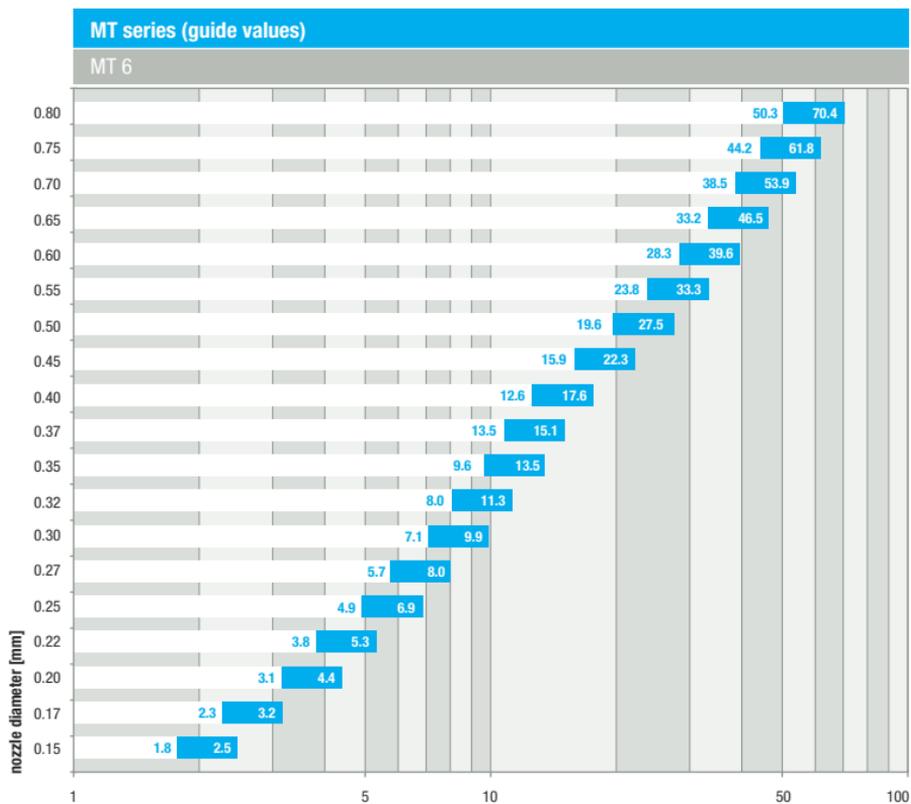


Always choose the smallest possible diameter!



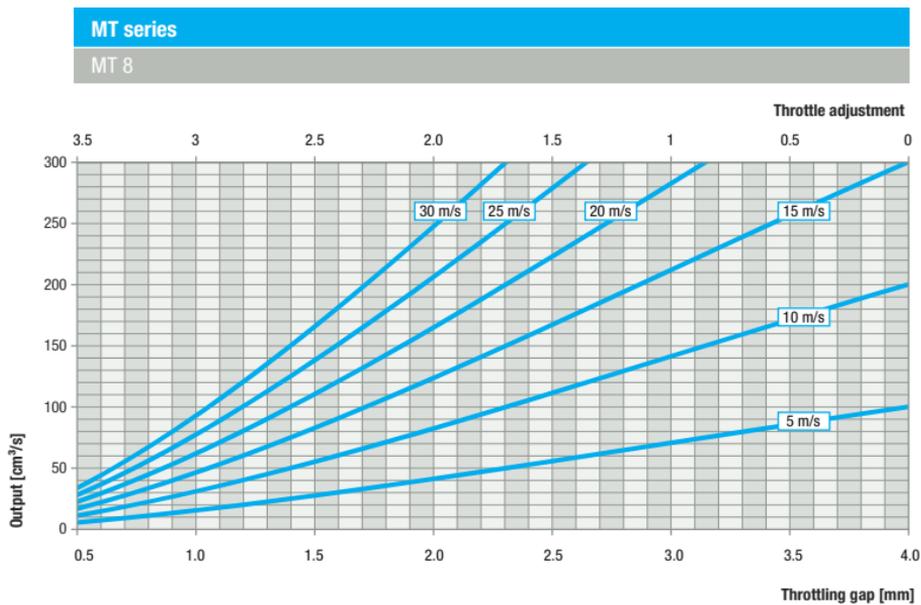
Always choose the smallest possible diameter!

Operation range of nozzles

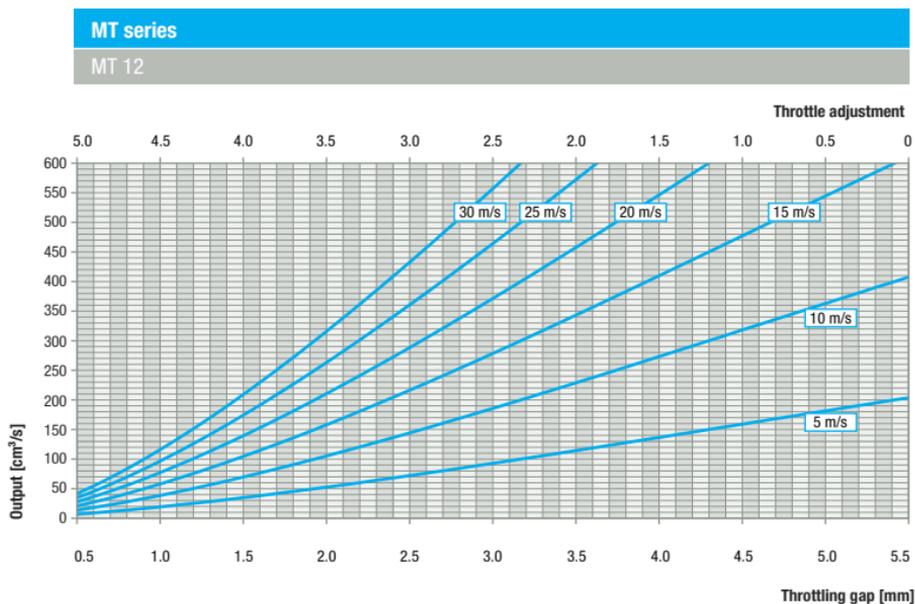


Output of individual component ccm/s (for a flow rate of 100 - 140 m/s)

Throttle adjustment

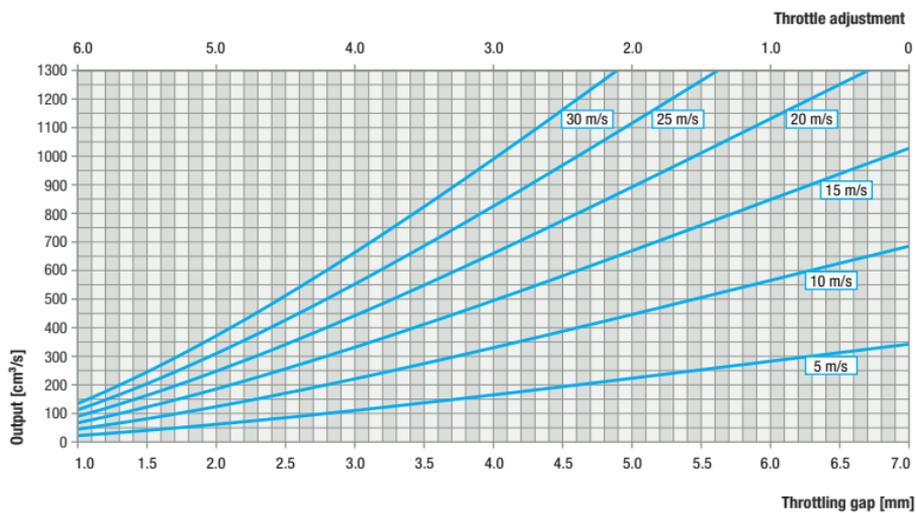


Throttle adjustment



MT series

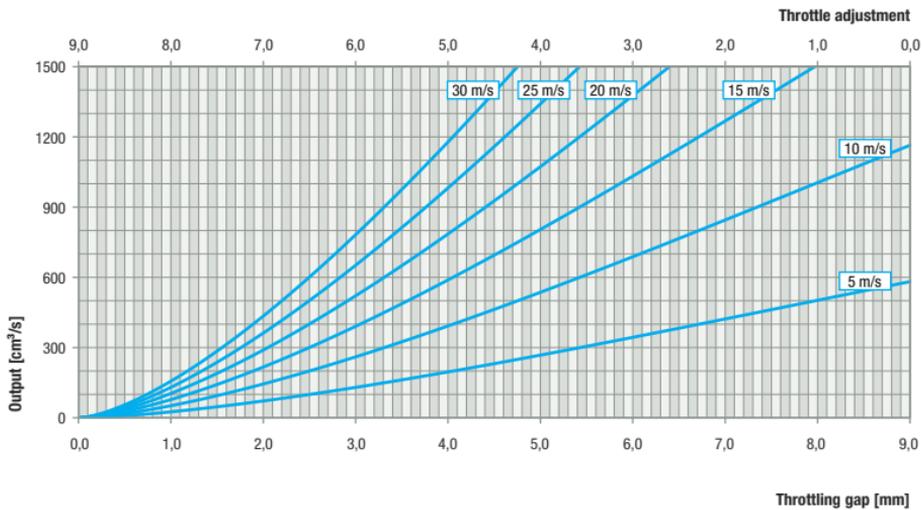
MT 18



Throttle adjustment

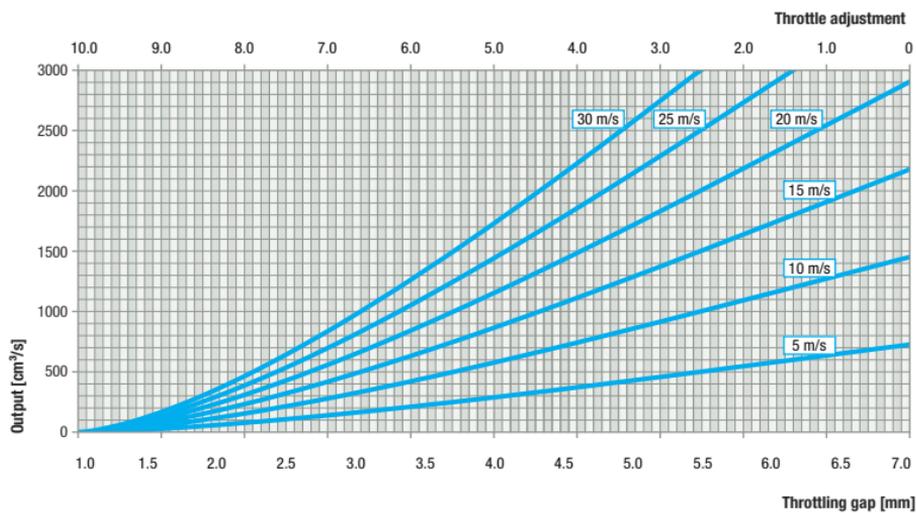
MT-A series

MT-A 20



MT series

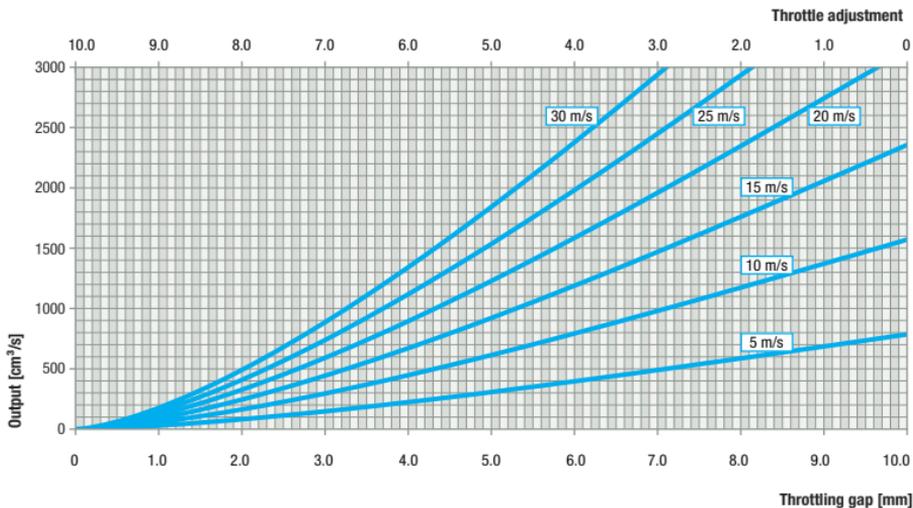
MT 22



Throttle adjustment

MT series

MT 26



Axial piston pumps - overview

Pump				
Pump type	Stroke volume	SV pressure	Max. working pressure (100% DC)	Indicated output 50 Hz
	[cm ³]	[bar]	[bar]	[cm ³ /s]
HP2	2	320	280	22
HP2	2	320	280	45
HP6	6	320	280	65
HP6	6	320	280	130
HP11	11.5	320	280	250
HQ12 / HL12*	12	320	280	270
HQ28 / HL28*	28	320	240	650
HP33	33	250	200	350
HP33	33	250	200	470
HP33	33	250	200	720
HL55	55	250	180	1250
HP62	62	250	180	1400
HL107	107	250	180	2500
HL107 HP	107	250	210	2500

¹ The table values apply at 50 Hz, at 60 Hz the max. output increases by approx. 20 %.

* All pumps from the HL series are replaced by the new HQ type

Metering time offset

Determining the time offset

The metering time offset serves to compensate for the switching process of the control piston or the metering injectors. As the metering time is started by the proximity switch signal "control piston in metering position", the metering begins before the metering time starts to run. The opposite is true for mixheads with switchable injectors. Here the metering time starts when the metering valve is switched on. However, some time passes before the nozzle opens and the metering begins.

The switching time of the control piston or the injector is the same for each metering operation, irrespective of the time set. The metering time offset can be calculated as follows:

1. Check the metering time offset entered and set it to 0 ms.
2. Carry out a short and a long metering operation and measure the metering weight of each one. (Example: First metering operation one second and second metering operation ten seconds).
3. Multiply the weight of the short operation by the time difference between both operations (a).
4. Divide the result (a) by the weight difference between the two operations.
5. Subtract the result (b) from the short metering time and then convert the result into milliseconds (c) and enter this figure into the control system.

For example:

Metering time short [t1]	1 s	Mass 1 [m1]	232.3 g
Metering time long [t2]	10 s	Mass 2 [m2]	2240.8 g

$$\text{Metering time offset } x \text{ [ms]} = \left[t1 - \frac{m1 * (t2 - t1)}{(m2 - m1)} \right] * \frac{1000 \text{ ms}}{1 \text{ s}}$$

- a. $232.3 \text{ g} * (10 \text{ s} - 1 \text{ s}) = 2090.7 \text{ g} * \text{s}$
- b. $2090.7 \text{ g} * \text{s} / (2240.8 \text{ g} - 232.3 \text{ g}) = 1.04093 \text{ s}$
- c. $1 \text{ s} - 1.04093 \text{ s} = -0.04093 \text{ s} = -40.93 \text{ ms}$

HIGHLINE metering units: Technical data

Version A:B=1:1

Machine Size	Max. pump output ¹		Total output	Tank sizes	Connected load ²	Net weight ³
	Polyol	Isocyanat				
HIGHLINE	[cm ³ /s]	[cm ³ /s]	[cm ³ /s]	[l] (effective content)	[kW]	[kg] (approximate weight)
65/65	65	65	130	60/250	15	1.550
130/130	130	130	260	60/250	20	1.650
270/270	270	270	540	60/250	25	1.750
650/650	650	650	1.300	60/250	45	1.850
1250/1250	1.250	1.250	2.500	60/250	60	1.950

Version A:B=2:1

Machine Size	Max. pump output ¹		Total output	Tank sizes	Connected load ²	Net weight ³
	Polyol	Isocyanat				
HIGHLINE	[cm ³ /s]	[cm ³ /s]	[cm ³ /s]	[l] (effective content)	[kW]	[kg] (approximate weight)
130/65	130	65	195	60/250	20	1.550
270/130	270	130	390	60/250	25	1.650
650/270	650	270	810	60/250	45	1.750
1250/650	1.250	650	1.875	60/250	60	1.850

¹ Tabulated values apply at 50 Hz mains frequency. The maximum machine output at 60 Hz is approx. 20% higher

² For HIGHLINE machines in standard version

³ For HIGHLINE machines with 250-l-tanks and temperature control (without boom)

TOPLINE HK metering units:

Technical data

Version A:B=1:1

Machine Size	Max. pump output ¹		Total output	Tank sizes	Connected load ²	Net weight ³	
	Polyol	Isocyanat				Pump table	Tank station
TOPLINE HK	[cm ³ /s]	[cm ³ /s]	[cm ³ /s]	[l] (effective content)	[kW]	[kg] (approximate weight)	[kg] (approximate weight)
65/65	65	65	130	60 - 500	25	1.000	1.560
130/130	130	130	260	60 - 500	30	1.100	1.560
250/250	250	250	500	60 - 500	35	1.200	1.560
270/270	270	270	540	60 - 500	35	1.200	1.560
470/470	470	470	940	250 - 1.000	45	1.300	1.560
650/650	650	650	1.300	250 - 1.000	55	1.300	1.560
720/720	720	720	1.440	250 - 1.000	55	1.300	1.560
1250/1250	1.250	1.250	2.500	250 - 1.000	70	1.400	1.560
1400/1400	1.400	1.400	2.800	250 - 1.000	70	1.400	1.560
2500/2500*	2.500	2.500	5.000	500 - 1.000	92	1.700	1.880

* Separate type series

Version A:B=2:1

Machine Size	Max. pump output ¹		Total output	Tank sizes	Connected load ²	Net weight ³	
	Polyol	Isocyanat				Pump table	Tank station
TOPLINE HK	[cm ³ /s]	[cm ³ /s]	[cm ³ /s]	[l] (effective content)	[kW]	[kg] (approximate weight)	[kg] (approximate weight)
130/65	130	65	195	60 - 500	30	1.100	1.560
250/130	250	130	375	60 - 500	35	1.200	1.560
270/130	270	130	390	60 - 500	35	1.200	1.560
470/250	470	250	705	250 - 1.000	45	1.300	1.560
650/270	650	270	810	250 - 1.000	55	1.300	1.560
720/350	720	350	1.050	250 - 1.000	55	1.300	1.560
1250/650	1.250	650	1.875	250 - 1.000	70	1.400	1.560
1400/720	1.400	720	2.100	250 - 1.000	70	1.400	1.560
2500/1250*	2.500	1.250	3.750	500 - 1.000	92	1.700	1.880

* Separate type series

¹ Tabulated values apply at 50 Hz mains frequency. The maximum machine output at 60 Hz is approx. 20% higher

² For TOPLINE HK machine with two tanks and temperature control

³ For TOPLINE HK machine (without boom), two 250-l-tanks and temperature control

TOPLINE HK metering units: Lubrication and maintenance plan

Important information for the initial start-up

Before cleaning or maintenance work is performed in the hazardous area of the plant, the control unit is to be switched off. Furthermore, the "general safety instructions" are to be observed before cleaning and maintenance work is carried out. The instructions of the lubrication and maintenance plan do not dispense the operator from constantly making himself further familiar with the production line and including newly arising maintenance and repair work in the lubrication and maintenance plan. If any points are unclear or problems arise, we will be readily prepared to be of assistance.

Screw connections / Commissioning

All screw connections of the production line are to be checked after approx. 200 operating hours and to be retightened if necessary (first checking). Afterwards all screw connections of the production line have to be checked every 2000 operating hours. If required, retighten the screw connections.

If the operator connects plant or machinery parts and equipment himself, the pipe and hose connectors absolutely have to be checked for tightness prior to the initial start-up (before they are filled with components or liquids for the first time). For this purpose, the line system is charged with dry compressed air (abt. 6 bar). Soap solution is sprayed onto all connecting points. If soap bubbles are generated, the connecting point is not tight. The screws have to be retightened until the lines are absolutely tight. When using liquids with a tendency towards crystallization, the following steps are to be taken: after the system has been checked and no leakage has been discovered, the pressure is to be kept overnight. Check next morning. In the case of a pressure drop > 0.2 bar the system has to be newly checked. Caution: Do not overturn screw connections. The sealing elements should be replaced in case of any doubt. The assembly instructions and tightening moments of the screw connections are to be observed.

Lubrication

All hinges, bearings and sliding points of the production line have to be cleaned and subsequently slightly greased at least every four weeks. Recommended lubricant: Graphitic lubricating grease, e.g. Klüber Grafloscon CA 901, alternative Retinax EP 2 multipurpose grease.

Hose lines

All high-pressure hose lines ($p > 30$ bar) have to be exchanged at the latest after 5 years or after 1,000,000 cycles.

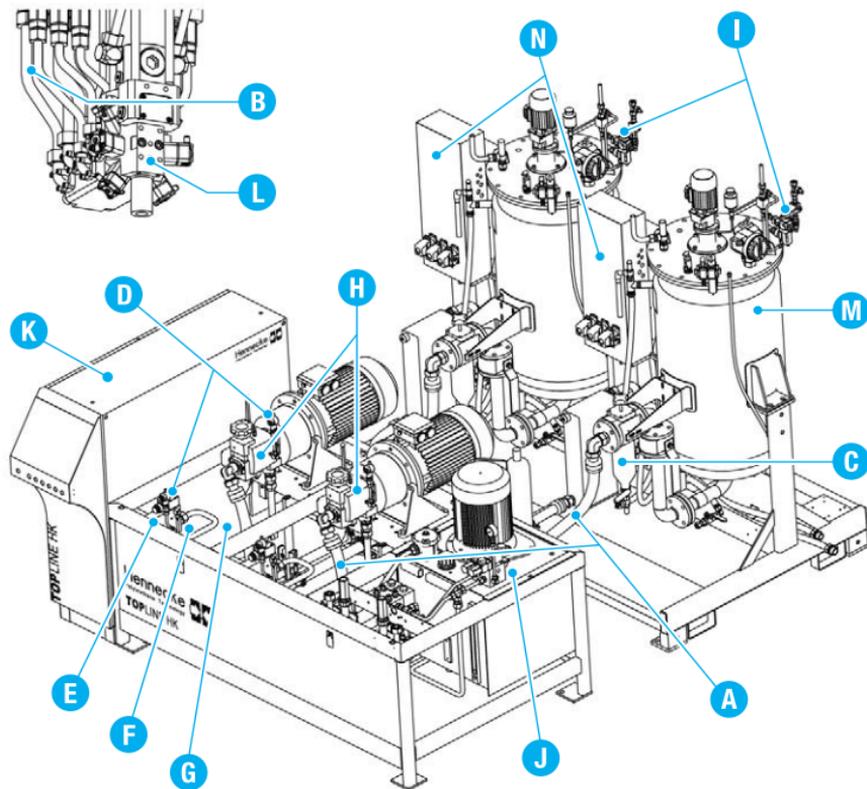
TOPLINE HK metering units: Main components

Check for wear

All areas in which components are in slide contact (bearings and sliding points) are to be checked for wear on a weekly basis! If necessary regrease! If there is any unusual noise during the operation of the plant, the cause is to be eliminated immediately. In case of lack of lubricant, regrease! The components have to be exchanged at the latest when there is so much wear that the component may fail to operate or there is any danger to material or persons.

Cleaning work

The plant is to be kept clean. Maintenance work can only completely and effectively be carried out on a clean plant. In an extremely contaminated plant, damages and defects are often only recognized when it is too late. Therefore, a basic cleaning of the plant, the auxiliary devices as well as the electric and hydraulic equipment is to be executed regularly. The intervals of the basic cleaning mainly depend on the daily hours of operation and the operating conditions of the plant.



- | | | | |
|----------|-----------------------------|----------|---------------------------------|
| A | Piping system of components | H | Metering pumps |
| B | High-pressure hoses / pipes | I | Compressed air maintenance unit |
| C | Edge filter | J | Hydraulic unit |
| D | Pressure switch | K | Electrical control |
| E | Safety valves | L | Mixhead |
| F | High-pressure filter | M | Work tank |
| G | Flowmeter | N | Temperature control units |

360° SERVICE

Comprehensive services for an efficient production





Around the clock, around the world, all around your production needs

For more than half a century, Hennecke has stood for high-performance machine and plant technology for polyurethane processing. With us, users around the world achieve high-quality and efficient production results.

The same applies when it comes to getting the right support for your production line or providing your staff with qualified training. Our 360°SERVICE offers customers different services at competitive prices. Each user has access to a tailor-made package of measures which ensures the highest degree of plant availability.

Does your company use Hennecke machine and plant technology? Why not opt for maximum support? This ensures that your Hennecke machine or plant will be in perfect operation for a long time.

Efficiency in polyurethane processing means above all: being and staying competitive

Only companies that constantly increase their efficiency will be successful on the market in the long term. In a more and more globalized economy, customers expect top-quality production results, strict compliance with deadlines and a low price level. This apparent contradiction can only be overcome by an efficient production. Hennecke's machine and plant technology comes with the necessary equipment right from the factory to meet the various requirements. The possibility of combining selected modules from the 360°Service portfolio ensures the customer maximum efficiency - especially when it really matters.



Fit for PUR

Our 360° TRAININGS program offers professional and practice-oriented courses and seminars at competitive prices. The main focus is on how to use Hennecke's machine and plant technology properly as well as on targeted and successful troubleshooting.

We make sure that you and your staff can make best use of the performance potential of Hennecke technology. In other words, we make you fit for PU processing at the highest level.

- >> Customer-specific training and comprehensive courses in process engineering, control technology and quality assurance
- >> Safety and confidence of your staff in operating machines and plants
- >> Effective increase in work quality and productivity
- >> Optimization of production and reduction of maintenance costs

360° SPARE PART SERVICE



Spare parts competence from a single source

An effective way of preventing costly production losses right from the start is to use original spare parts with manufacturer's warranty. Save yourself the search for alternative spare parts suppliers - our 360°SPARE PART SERVICE is not only attractive because of reliable availability and fast delivery but especially because of the favourable price-performance ratio.

Opt for intelligent spare part management with qualified advice from a single source. The concrete result? Maximum uptime!

- >> The majority of our spare parts is on the way to you within 24 hours
- >> Benefit from individual spare part packages in different sizes
- >> Qualified support thanks to our 360°Service hotline where orders can be placed until late at night
- >> Tailor-made seal and repair kits from our central spare parts store or the worldwide 360°SERVICE network

360° REPAIR SERVICE



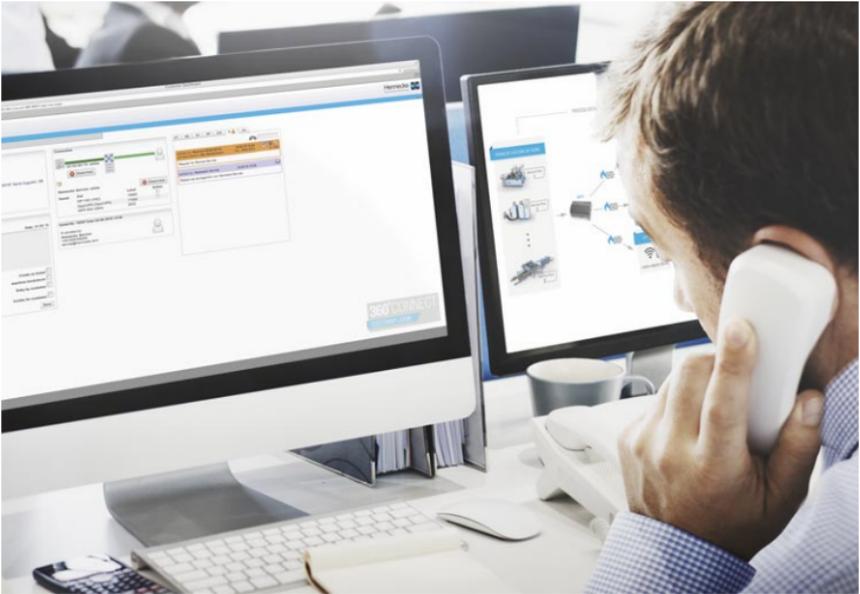
Fast, reliable, professional

The operational life of machines and systems can often be significantly extended by upgrading various components cost-effectively.

Our 360°REPAIR SERVICE offers a wide range of components on a hire basis at attractive prices. This changes nothing in the performance, which remains as perfect as ever.

The 360°REPAIR SERVICE is also attractive for other reasons apart from the comprehensive fault management. It minimizes the risk of unplanned system outages, for example, thanks to precautionary measures or good guidance of users.

- >> Individual efficiency audits as a basis for all repairs
- >> Comprehensive fault management
- >> Prevention of plant downtimes during repairs
- >> Extensive range of repairs at fixed prices



Qualified support, remote service and process monitoring

With 360°CONNECT, the expertise of our technical service support specialists is available to our customers worldwide, directly and without time-consuming travels. Thanks to modern digital infrastructure, our qualified and extensive support services are only a few clicks away. Based on a constantly secured data connection, we offer you, for example, various tools for production or process monitoring. This also includes targeted isolation of possible problems or faults in the production process.

With the browser-based 360°SERVICE customer portal, Hennecke customers also benefit from a well-developed ticket management system and can access the current version of the machine or plant documentation at any time.

- >> First-level support around the clock, 365 days a year
- >> Second-level support from specialists at the company headquarters
- >> Decentralized service technicians for fast and professional local support

360° PREVENTIVE SERVICE



Optimize production minimize risks

With our 360°PREVENTIVE SERVICE, you can optimize your production with transparent fixed costs and at the same time minimize a great number of risks. The preventive measures include regular production inspections.

Our 360°PREVENTIVE SERVICE will extend your plant's service life and effectively reduce your staff's workload.

- » Individual inspection plans are part of our Hennecke Service Inspection (HSI) scheme
- » Monitoring of all the relevant parameters including maintenance and cleaning work
- » Detailed readjustment and optimization for improved machine performance
- » Individual production assistance including safety and productivity audits
- » Tailor-made maintenance contracts for your machinery



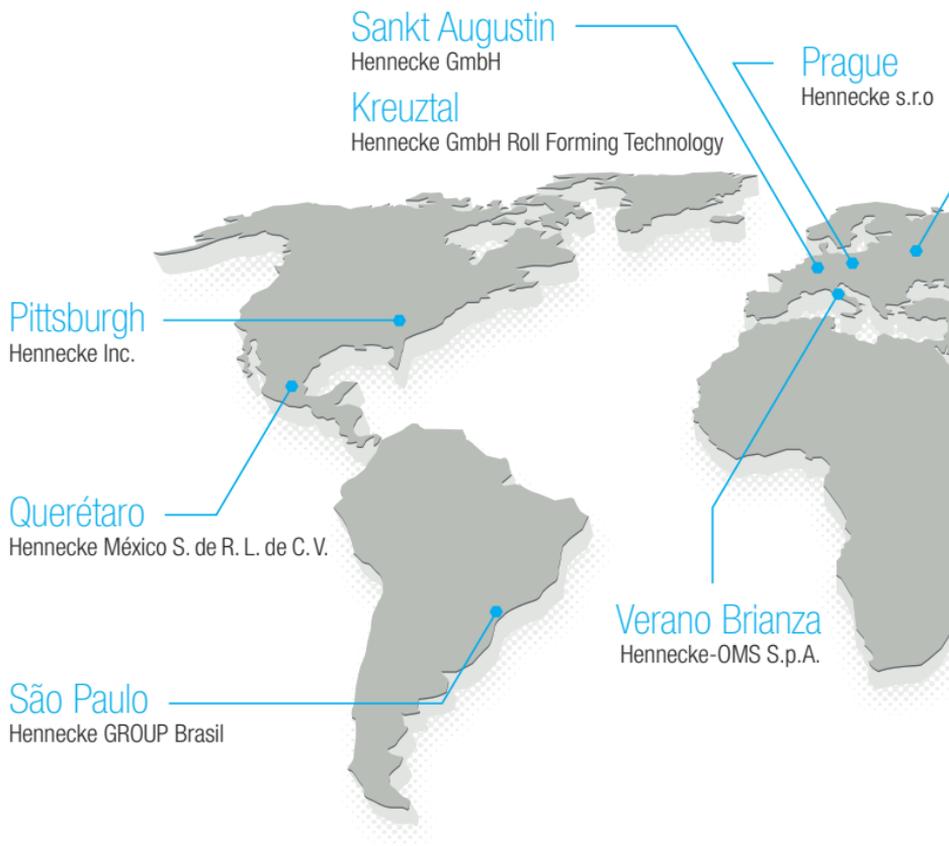
- >> Innovative and useful retrofit solutions for many applications
- >> Convincing production results and maximum efficiency thanks to state-of-the-art technology
- >> Higher uptime and less expenditure on service personnel

Innovation for retrofitting

360°RETROFIT offers you patented innovations for fast and simple retrofitting. This will efficiently optimize your machine's performance and ensure your production many more decisive advantages at an extremely attractive price-performance ratio.

Our 360°RETROFIT service is continuously improved with further innovative measures for retrofitting, where efficiency and customer benefit are the key. This is about more than a spare part – it's about innovation for retrofitting.

Around the world



Our international contact addresses

We have a global network of regional agencies and contacts which allows us to provide services and support in other countries too.



360° RETROFIT | METERING MACHINES



- » Conversion to magnetic clutch technology, optionally available as a complete pump set with a drive or as a retrofit of available metering pumps
- » Conversion to the newest HQ pump generation in bent axis construction
- » Replacement of mixheads with highly efficient MT mixheads
- » Conversion and modernization of the SIMATIC system control of S5 to S7 or update of the HMI panel to TIA standard
- » Integration of a comprehensive process data recording system (PDL)
- » Expansion to multiple metering places (multiple metering)
- » Expansion of the metering machine for the processing of multiple components

360° RETROFIT | SLABSTOCK LINES



- » Conversion and modernization of the SIMATIC system control to the newest software and hardware generation (TIA)
- » Conversion of the MSL mixhead to screw stirrer technology to achieve a homogeneous mixture
- » Replacement of the metering pumps
- » Integration of additional metering lines for increased flexibility in formula selection and formulation
- » Replacement of DC drives with AC drives in pumps, mixheads and dry end drives
- » Integration of ether or ester throttle for effective control of the mixing chamber pressure
- » Replacement and modernization of the system operating terminal, incl. current Windows® OS

360° RETROFIT | SANDWICH PANEL LINES



- » Conversion and modernization of the SIMATIC system control to the newest software and hardware generation (TIA)
- » Conversion of the panel conveyor to new CONTIMAT drive technology with a three-phase propulsion system
- » Replacement of the laminator plates for all CONTIMAT system versions
- » Integration of additional metering lines for formulating individual foam formulas
- » Replacement of the premixer for homogeneous mixing of individual additives with polyol
- » Integration, expansion and modernization of the cooling line for effective discharge of reaction heat
- » Retrofitting of water jet cutters for effective removal of foam residue in the area of overlapping sections
- » Retrofitting of a film layer for targeted removal of the foam at overlapping sections
- » Replacement and modernization of the system operating terminal, incl. current Windows® OS



- » Replacement of MX mixheads with highly efficient MT mixheads
- » Expansion of mixhead portals for KGS and ROTAMAT system technology (in conjunction with the expansion of Pentane Process Technology)
- » Expansion of the door removal unit for ROTAMAT system technology (in conjunction with the expansion of Pentane Process Technology)
- » Expansion of housing support fixtures for KGS and ROTAMAT system technology (in conjunction with the expansion of Pentane Process Technology)
- » Conversion and modernization of the SIMATIC system control of S5 to S7 or update of the HMI panel to TIA standard Integration of frequency-controlled metering pumps in conjunction with DC current nozzles and MT mixhead technology for increased variability of the discharge rate
- » Expansion of the PENTAMAT for processing of two or three blowing agents
- » Conversion of the system wet end to the Pentane Process Technology by integrating magnetic clutches for metering pumps and stirrers

360° RETROFIT | MOULDED FOAM LINES



- » Conversion and modernization of the SIMATIC system control to the newest software and hardware generation (TIA)
- » Expansion of an existing WKH by integrating additional mold carriers (e. g. 32 to 42)
- » Expansion of production from four components to six components by using TOPLINE HK MF modules and six-component mixhead technology.
- » Retrofitting of a CARBOMAT metering unit for the CO₂ loading of polyurethane components
- » Retrofitting of equipment for optimized system monitoring and quality assurance (e. g. barcode reader or video surveillance)
- » Replacement and modernization of the system operating terminal, incl. current Windows® OS
- » Relocation of the entire WKH system technology to another production location



- >> Expansion of the production plant by a second or third mold carrier
- >> Modernization of metering pumps and drive technology
- >> Retrofitting of current mixhead technology (also on third-party lines)
- >> Conversion and modernization of the SIMATIC system control to the newest software and hardware generation (TIA)

>> SPRAY APPLICATION LINES

- Integration of an additional mixhead for bilateral spray application
- Retrofitting or initial fitting of highly efficient and long-lasting cutting tools for the metering of cut fibers
- Integration of new gripper models (depending on the particular application)



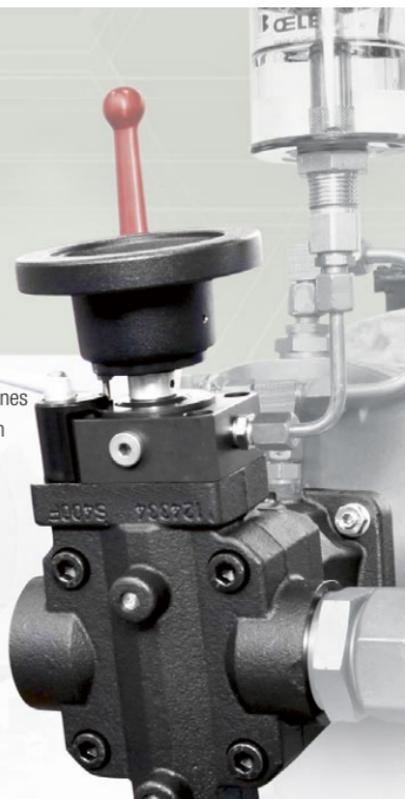
>> HP-RTM LINES

- Integration of additional metering lines for colors or systems containing fillers (HT30evo), also available as a quick change system
- Expansion of the user area by the wet press process (wet compressed molding)
- Expansion of the production plant to up to four mixheads to increase efficiency

HQ PUMP SERIES

>> Exact and reliable production results for new machines and existing lines with the new HQ pump generation in bent-axis design

- **Convincing production results**
because HQ pumps provide high efficiency and make for an excellent and reproducible foam quality.
- **High metering accuracy**
because the displacement volume is continuously variable using a handwheel with high-precision adjustment indicator.
- **Better work conditions**
because HQ pumps reduce operating noise in many cases of application.
- **Easy to service**
because HQ pumps consist of fewer parts, meaning less weight and a compact design for better handling.
- **Cost-efficient and reliable**
because old pumps no longer need to be repaired and spare parts are available on a long-term basis.



Available pump sizes

Type or size	12	28
Nominal pressure	250 bar	250 bar
Maximum pressure	315 bar	315 bar
Substitution of HL series	HL12	HL28



CONSTANT PRESSURE INJECTOR

The new Hennecke constant pressure injector offers you patented innovation for fast and simple retrofitting. The low-maintenance injector optimizes machine performance effectively and offers significant advantages to the production process at an extremely attractive price/performance ratio.

- **Maximum operating safety** - because dirt particles are rinsed out thanks to the automatic readjustment of the throttle gap
- **More flexibility** - because changes of output are possible from shot to shot without any further adjustments having to be made to the injector
- **Shorter cycle times** - because the machine's lead time is reduced due to a significantly faster pressure build-up
- **Maximum efficiency** - because there is less wear and tear and noise development in the met pumps thanks to the flow-optimized injector geometry. A positive side-effect is a reduction in energy consumption

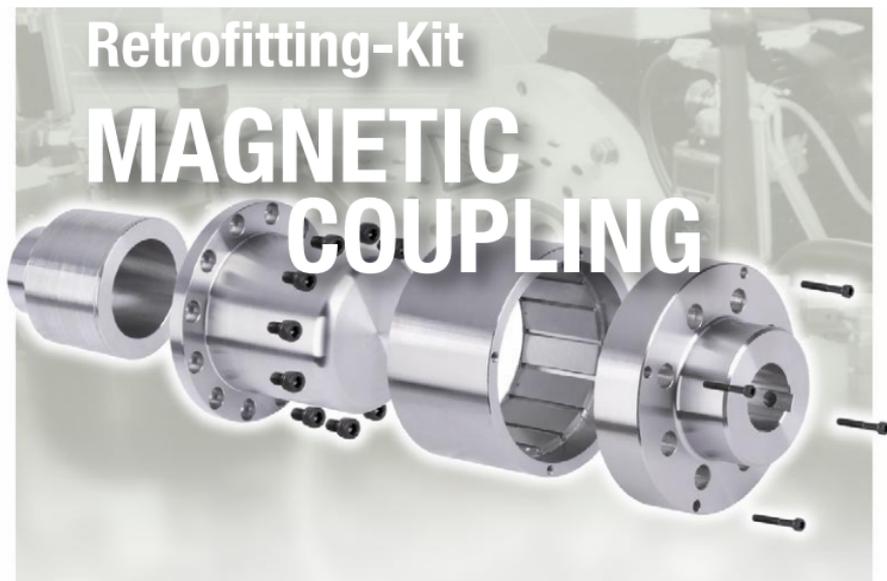
The constant pressure injector is 100 percent compatible with Hennecke's standard injectors. They can be exchanged in little time without using special tools.

The patented Hennecke constant pressure injectors are available for the following mixhead types:

Series	Size		
MX	8	12	18
MN	10	14	

We also offer the constant pressure injector for other models from the MX, MN and MT series. For a quote, please contact our service center.

Retrofitting-Kit MAGNETIC COUPLING



The magnetic coupling retrofitting kit offers you innovative technology for retrofitting your polyurethane metering machine fast and simple. Standard shaft seals are replaced by a maintenance and wear-free static seal system. This ensures your production process practical advantages at a very attractive price-performance ratio.

- **Reduced downtimes** - because seals on the pump shaft no longer need to be replaced regularly thanks to the maintenance-free magnetic coupling
- **An extra plus in operating safety** - because openings in the component system have been reduced to a minimum and leakages or impurities are prevented effectively
- **Cost efficiency** - because the investment pays off quickly due to higher plant availability and noticeably reduced costs for service personnel and spare parts

The magnetic coupling retrofitting kit is available in different designs for all Hennecke metering machines of the **TOPLINE**, **BASELINE** and **MICROLINE** type series.

Type	Size					
TOPLINE	65	130	270	650	1250	2500
TOPLINE	55	135	270	650	1250	2500
BASELINE	55	135	270	650	1250	2500
MICROLINE	45	130				

The magnetic coupling retrofitting kit is also available for other metering machines. For a quote, please contact our service center.

If the replacement is carried out by trained service staff, roughly one working day is required (depending on pump type).

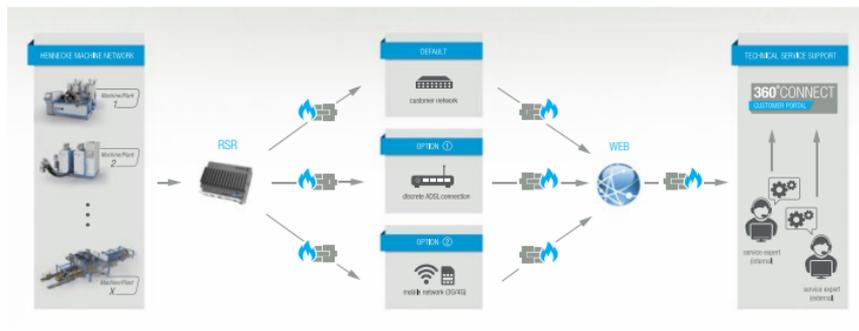
REMOTE SERVICE

- >> Efficient remote support for optimization and troubleshooting

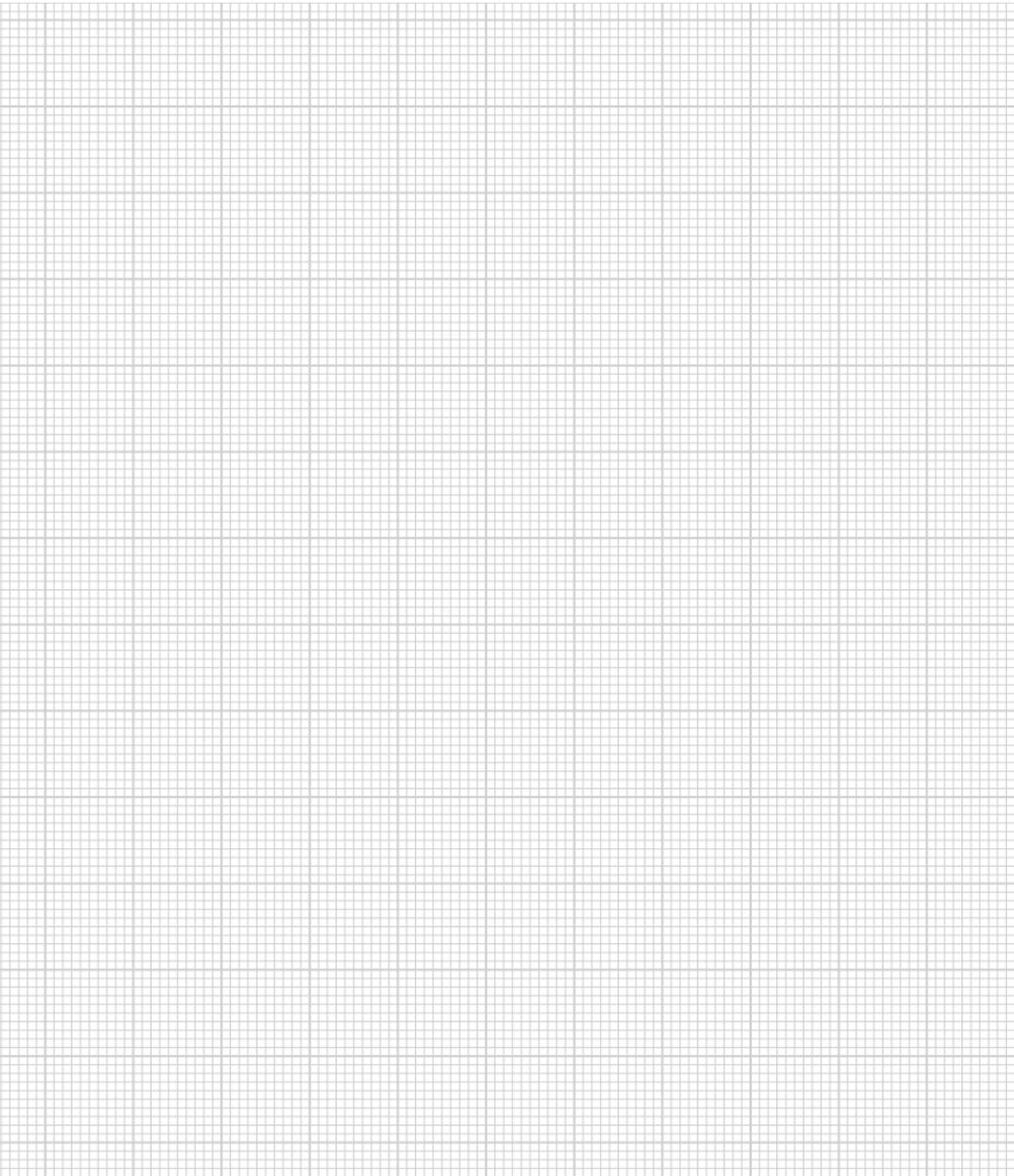
Many failures in the production process can be quickly localized and remedied by accessing the automated PLC system in a focused way. An experienced service technician can analyze and solve even complicated problems efficiently. Based on secure data connections, the 360°CONNECT remote service allows you to benefit from the know-how of Hennecke systems specialists all over the world without incurring traveling costs.

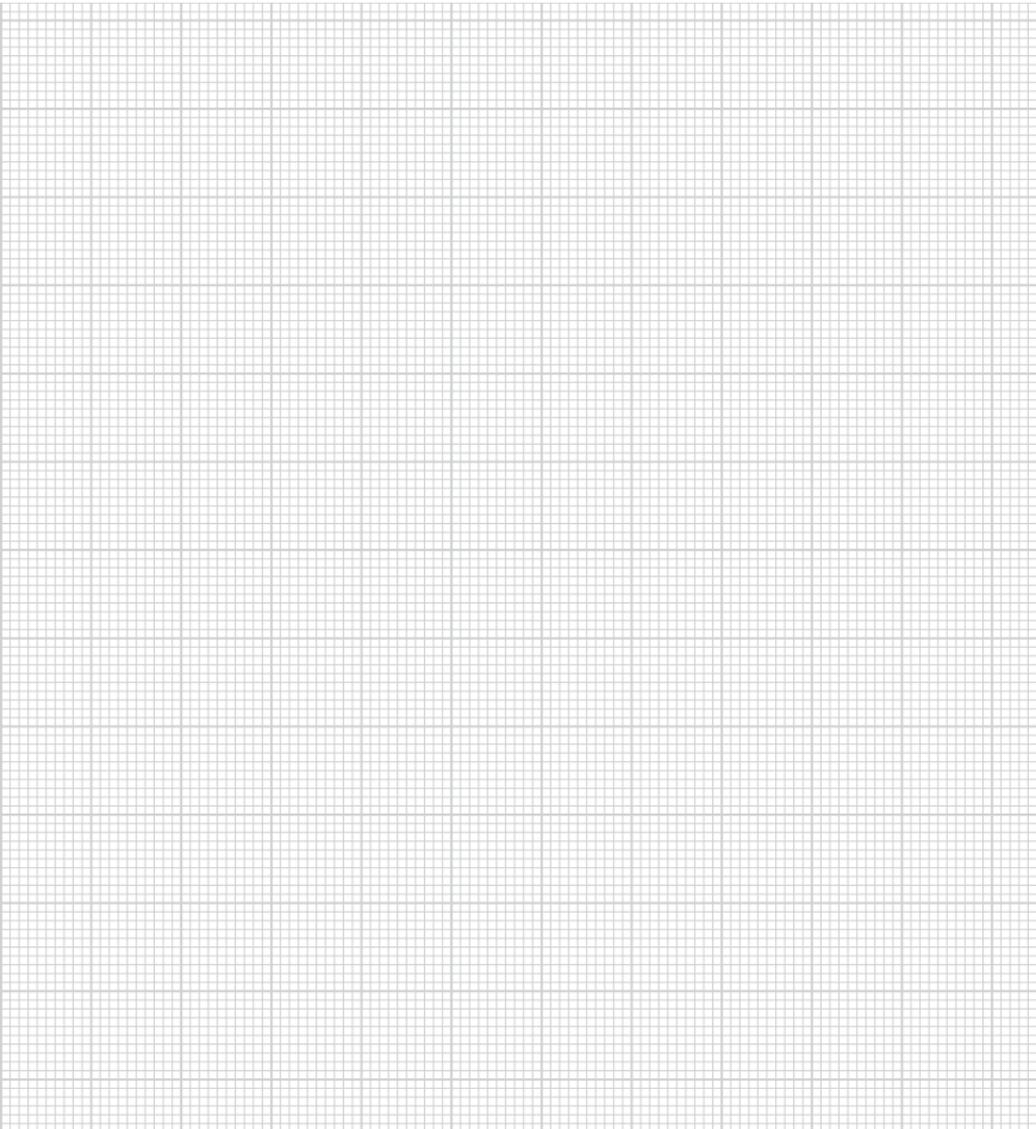
Secure and reliable because the link between the automated PLC system and the support client is encoded and safe, with all interventions being automatically recorded. And your production process will never be exposed to unnecessary risks because the customer has to confirm each time a technician wants external access to the system.

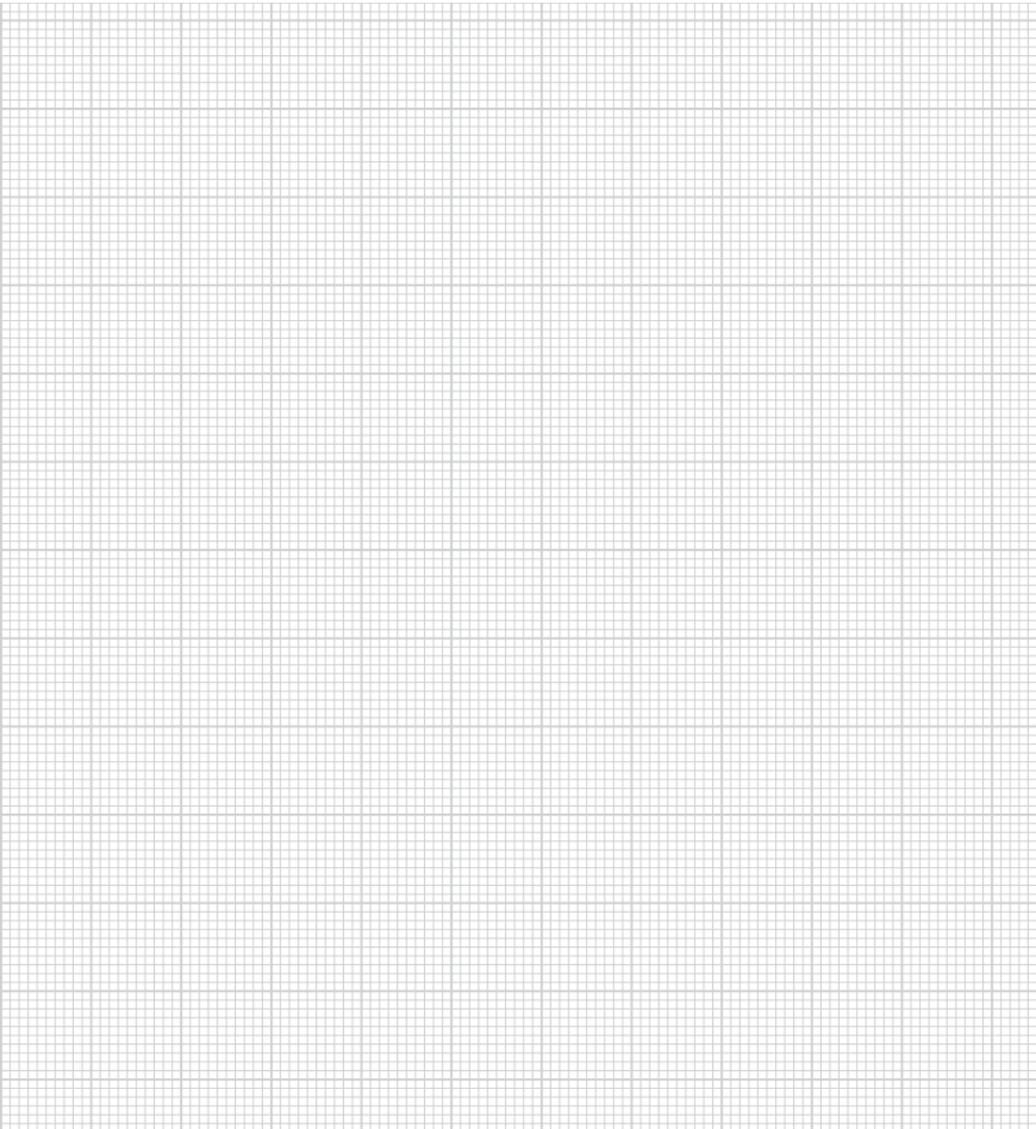
Compatible with your production because many Hennecke systems are already equipped with the necessary Remote Service Router (RSR) as a standard. The 360°RETROFIT portfolio also allows for older production systems to be upgraded to RSR after a one-off test. Get in touch with us for a non-binding offer.



Personal Notes









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