

Asia-Pacific
ISOTHERM
Polyurethane Processing Equipment

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ISOTHERM



About us

Isotherm AG, Switzerland, develops constructs and delivers high-pressure PUR installations for very different spraying and molding applications in Europe and overseas. Know-how gathered since 1974 and the will to develop continuously new and optimal solutions for our customers are the counter stones of the high reputation of our company

We are a machine manufacturing company with own, wide range of machinery and wealth of ideas, accessories, but still independent of raw materials. Thus we offer objective consultation and optimal

关于我们

瑞士商易硕腾(Isotherm AG)在欧洲和海外针对各种不同聚氨酯的喷涂和成型应用开发加工装置，并提供高产量的高压聚氨酯装置。本公司自 1974 年开始搜集的专门知识技术，以不断为客户开发新式最佳解决方案的意志，赢得了国际间的高度信誉。

我们是一家机械制造公司，本身拥有广泛的机械技术和丰富的构想、配件，原料供应自给自足。因此，我们针对喷涂或成型装置可提供客观的咨询和最佳解决方案。传统以来，我们灵活的专家团队展现出一定的品质水准。

Products

We respect the environment; focus on solvent-free processing of our equipment's and the economic implementation of our products.

产品

我们注重环境，专注于开发不使用溶剂的设备加工流程，并以符合经济效益的方式制造产品。

Dosing systems

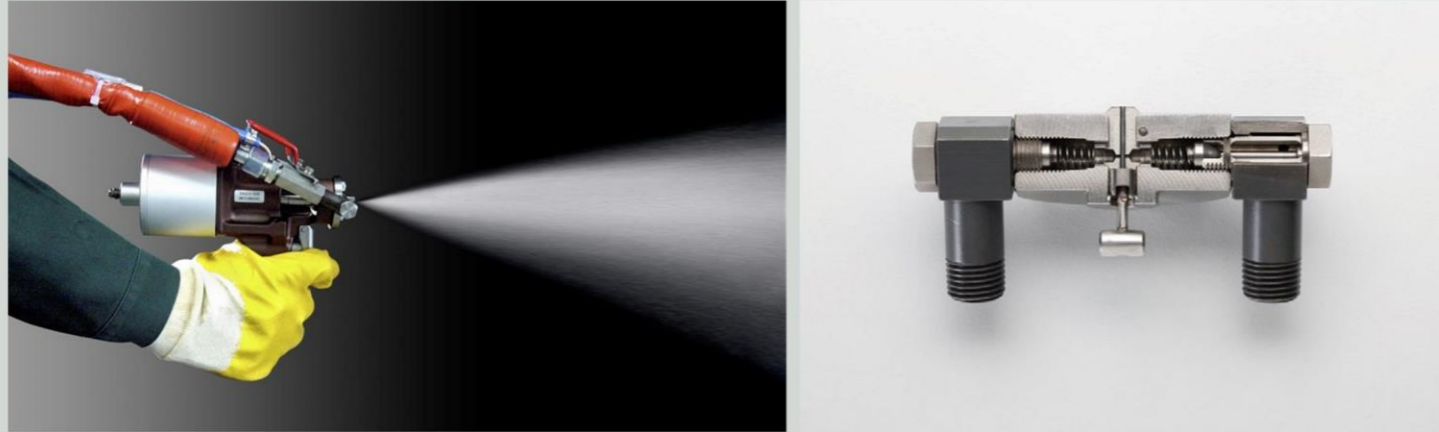
Polyurethane high-pressure equipment's for spraying and injection of 2K PU Foam and Elastomers in open as well as closed molds and coatings to protect, seal, insulate or reinforce.

計量系統

适用于在开放式和封闭式模具中，以涂料喷涂及注射 2K 聚氨酯泡沫塑料和弹性体，以进行保护，密封、绝缘或补强的聚氨酯高压设备。

PU (Polyurethane) Mixing Heads:

PU(聚氨酯)混合头：



Principle of Mixing

The components arrive through the hollow screws separated by the needle at the purely metallic sealed mixing chamber with a pressure max. 200 bar. By actuation of the mixing head the needle is pulled back behind the injectors. The components collide against each other with high speed and are intensively mixed.

Check valves in the hollow screws avoid a passing from one side to the other. At the shot-end the needle separates the component streams and pushes the remaining mixed material out of the mixing chamber. No solvent flushing or air blowing is needed.

混合原理

原料在纯金属密封混合室中，以最大 200 巴(20Mpa)的压力，经由以针分隔的空心螺纹塞中进行混合。藉由启动混合头，将针往回拉到喷注器的后面。这些原料彼此高速碰撞并充分混合。空心罗丝中的检查阀，可避免两原料提早混合。在射出结束时，针将会分开原料流，并将存在于混合室内的混合材料推出。过程中，无需以任何溶剂冲洗或进行吹气。

PUR-MIXING CHAMBERS

聚氨酯混合室

Mixing chamber no. and output in l/min depending on viscosity

根据不同的粘度，易硕腾混合头可选用不同的混合室编号以决定输出流量(l/min)

混合室編號	2	3	7	4	5	8.4	8
升/分	0.6-0.8	0.8-1.7	1.7-2.5	2.5-3.5	3.5-5.5	5.5-7.5	7.5-10
SP300	•	•	•	•	•	•	•
SP300H	•	•	•	•	•	•	•
SP200	•	•	•	•	•		
SP900	•	•					
RSP400	•	•	•	•	•	•	•
GP510	•	•	•	•	•	•	•
GP600	•	•	•	•	•	•	•



It happens in the mixing head

Isotherm pouring and sprayheads are based on the highpressure impingement mixing principle with automatic mechanically self-cleaning. No solvent flushing needed.

A daily cleaning is not necessary, even after a long period of machine-stop the function is every time assured.

易硕腾(Isoterm)浇口和喷头是以高压碰撞混合原理为依据，具有自动清洁功能，可节省大量溶剂或是每日所消耗的清洁时间，即使停机很长一段其间之后仍可确保每次使用时的功能。

L-Shaped Mixing Head GP 600

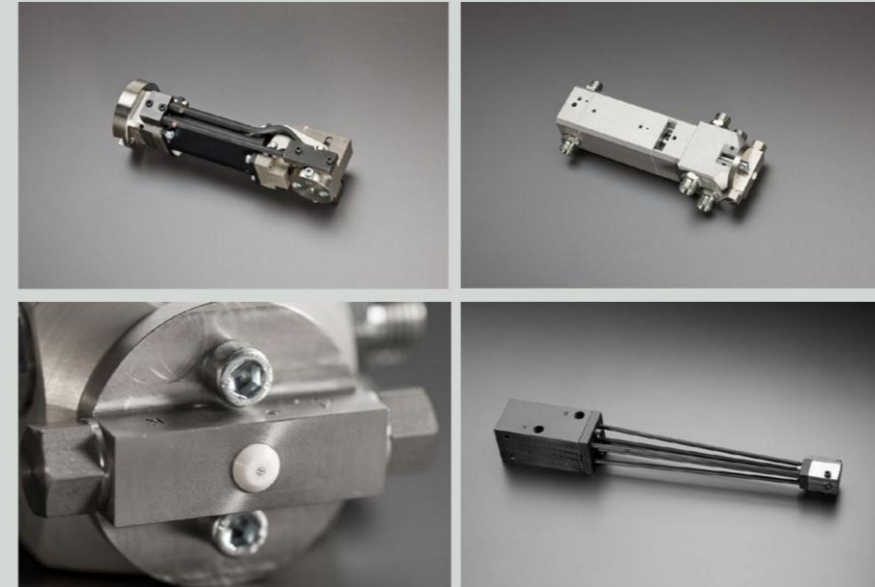
L型混合頭GP600

ADVANTAGES

- Recirculation of components through the mixing head ensures uniform ratios, component temperature, pressure and optimal processing conditions
- Optimized efficiency in mixing chamber
- Laminar discharged mixture at the outlet
- For casting and injection molding
- Compact, modular design

优点

- 制程中，原料不断地在装置中循环，以确保双组分比例、温度、压力等最理想的加工条件
- 高压混合技术可将反应高度优化
- 在混合室出口处以最佳层流方式排出
- 适用于浇注及注射成型
- 小巧、模组化设计，便于拆解及更换部件



It happens in the mixing head

- Automatic self-cleaning
- Purely metallic seals
- Mixing heads made of hard material for processing of abrasive fillers
- No solvent flushing, no air blowing, no flushing wastes
- Less maintenance
- Extremely homogeny mixing even in different mixing ratios and low output
- Processing of highly reactive systems with a pot life from 1 second
- Airless processing for a compact coat layer including excellent mechanical properties (low pore volume)

优点

- 全自动自我清洁
- 纯金属密封零件
- 硬质材料制成的混合头，可抵抗填料的磨损
- 无需溶剂冲洗废料、吹气
- 即便采用不同的组分混合比例和低输出量，亦能产生极佳混合均匀度
- 可适用于高活性反应快速的聚氨酯体系
- 可适用于紧密涂层的无气式喷涂，成品具低孔隙特性

Isotherm ergonomic mixing heads are obtainable in 5 standard and many special types for spraying, casting, injection molding of filled and unfilled 2K PUR-Foam, Elastomers and Polyurea. Timer controlled head.

易硕腾(Isotherm)符合人体工学的混合头有5种标准型和许多特殊型可供应，适用于填充和非填充双原料聚氨酯(2K-PUR)、弹性体和聚脲的喷涂、浇铸和射出成型。可由定时器控制。





PSM700 varicontrol

万用聚氨酯高压无脉冲式喷涂设备

- 提供 39、100 或 250 公升的进料箱可選擇，由桶泵進行填料
- 以液压传动的往复活塞泵进行测量
- 混合比和输出量的全自动循环管路调节。
- 工业化的电脑中控系统，支持触摸屏控制
- 制程可视化，可做最简单的参数设定和数据储存
- 动态显示控制和故障分析
- 多元醇与异氰酸酯的预热，可藉由电加热管个别调节温度
- 支持 10 至 90 公尺长的电加热管
- 具备各式警报器及混合头移动装置
- 机器式自动清洁、免吹气的混合头
- 可选用填充和非填充聚氨酯体系，应用于室内或户外移动式的喷涂

应用范围

喷涂

隔热和防水抗磨损防护、涂料喷涂、模内自表皮(IMS)、黏合剂喷涂、聚甲基丙烯酸甲酯(PMMA)零件补强、聚氨酯强化纤维结构、RIM 喷涂、模内涂层(IMC)等。

技术资料

输出量	0.6 - 10 升/分 (10-166 克/秒)
混合比例	1:4 至 4:1
黏度	最大 5000 毫帕·秒(mPa·s)
最大工作压力	200 巴(20Mpa)
尺寸长 x 宽 x 高	1200 x 800 x 1900 毫米
总重量	650 公斤
电源供应	3 x 400 伏特/ 50 赫兹/ 24 千伏安

*技术数据按具体情况调整

PSM 700 varicontrol

Universal PUR-high-pressure pulsation free spraying unit.

- Feeding by barrel pumps or heated day tanks 39 / 100 or 250 liters
- Metering by hydraulic driven reciprocating piston pump
- Fully automatic close loop regulation of mixing ratio and output
- Industrial-PC with touchscreen for processing
- Process visualization and repository
- Dynamic displays for control and trouble analysis
- Preheaters and electric heated hoses separate regulated for Polyol and Isocyanate
- Electric heated hoses in length of 10 to 90 meters
- Alerting on machine and mixing head for mobile units
- Mechanically self-cleaning, purge-free mixing heads for high-pressure impingement mixing
- For spraying of filled and unfilled PUR-Systems in mobile and in-house application

Application area

Spraying

Thermo- and hydroinsulation abrasion protection, coating spray, In-Mold-Skinning (IMS), spraying of adhesives, reinforcement of PMMA parts, PUR-reinforced fibrous structures, RIM spray, In-Mold-Coating (IMC) etc.

Technical data

Output stepless	0,6 – 10 l/min. (10–166 g/s)
Mixing ratio stepless	1:4 to 4:1
Viscosities max.	5000 mPa·s
Max. working pressure	200 bar
Dimensions L x B x H	1200 x 800 x 1900 mm
Total weight	650 kg
Electric power supply	3 x 400 V / 50 Hz / 24 kVA

Subject to technical changes.



PSM90

万用聚氨酯高压计量设备，附液压传动活塞泵。本机精巧设计且具随插即用之特点，适用于各种聚氨酯制程

- 完全控温的原料循环
- 原料经由混合头再循环
- 混合比例和输出量全自动循环管路调节
- 工业化的电脑中控系统，支持触摸屏控制
- 制程可视化，可做最简单的参数设定和数据储存
- 动态显示控制和故障分析
- 高压碰撞混合的机械式自动清洗免扫气混合头
- 适用于填充和非填充聚氨酯系统的喷涂、浇铸和注射成型
- 可实现最低输出量 1.5-1000 克的喷涂及浇注，而不易产生反应不均

应用范围

喷涂

隔热和防水抗磨损防护、涂料喷涂、模内自表皮(IMS)、黏合剂喷涂、聚甲基丙烯酸甲酯(PMMA)零件补强、聚氨酯强化纤维结构、RIM 喷涂、模内涂层(IMC)等。

浇铸/注射

过滤器浇铸/涂胶、高尔夫球、线束封装、桌缘和门缘包边、家具木榫、车轮和轧辊、聚氨酯胶、自表皮射出成型、透明涂层模具 (CCM)RTM 复合材料零件等

技术资料

输出量	0.6 - 5 升/分 (10-83 克/秒)
混合比例	1:4 至 4:1
黏度	最大 5000 毫帕·秒(mPa·s)
最大工作压力	200 巴
尺寸长 x 宽 x 高	1200 x 800 x 1900 毫米
总重量	1540 公斤
电源供应	3 x 400 伏特/ 50 赫兹/ 24 千伏安

*技术数据按具体情况调整

PSM90

Universal PUR-high-pressure metering unit with hydraulic Driven plunger pumps. Compact and one frame plug-and-play machine.

- Fully heated component circuits
- Recirculation through the mixing head
- Fully automatic close loop regulation of mixing ratio and output.
- Industrial-PC with touchscreen for processing
- Process visualization for the simplest parameter-set and repository
- Dynamic displays for control and trouble analysis
- Mechanically self-cleaning, purge-free mixing heads for high-pressure impingement mixing
- For spraying, casting and injection molding of filled and unfilled PUR-Systems
- Offers the possibility to realize smallest surge-free single shots of 1.5-1000 g for spraying and casting

Application area

Spraying

Abrasion protection, coating spray, In-Mold-Skinning (IMS), spraying of adhesives, reinforcement of PMMA parts, PUR-reinforced fibrous structures, RIM spray, In-Mold-Coating (IMC) etc.

Casting/injecting

Filter casting/gluing, golf balls, wire harness encapsulation, table- and door edging, furniture-wood joints, wheels and rolls, PUR-Gel, skin injection molding, Clear-Coat-Molding (CCM), RTM Composite parts etc.

Technical data

Throughput step less	0,6 – 5 l/min. (10–83 g/s)
Mixing ratio step less	1:4 to 4:1
Viscosities max.	5000 mPa·s
Max. working pressure	200 bar
Dimensions L x B x H	1200 x 2200MM
Total weight	1540 kg
Electric power supply	3 x 400 V / 50 Hz / 24 kVA

Subject to technical changes.



PSM3000

万用 PUR 高压计量设备，附液压传动串联柱活塞泵。具有模块化结构设计，可高度定制化，适用于高产量的各项应用。

- 完全控温的原料循环
- 原料经由混合头再循环
- 混合比例和输出量全自动循环管路调节
- 工业化的电脑中控系统，可经触摸屏控制
- 制程可视化，可做最简单的参数设定和数据储存
- 动态显示控制和故障分析
- 适用于高压碰撞混合的机械式自动清洗免扫气混合头
- 适用于填充和非填充聚氨酯系统的喷涂、浇铸和注射成型
- 可实现最低输出量 1.5-1000 克的喷涂及浇注和连续法生产

应用范围

喷涂

隔热和防水抗磨损防护、涂料喷涂、模内自成皮(IMS)、黏合剂喷涂、聚甲基丙烯酸甲酯(PMMA)零件补强、聚氨酯强化纤维结构、RIM 喷涂、模内涂层(IMC)等。

浇铸/注射

过滤器浇铸/涂胶、高尔夫球、线束封装、桌缘和门缘包边、家具木榫、车轮和轧辊、聚氨酯胶、自成皮射出成型、透明涂层模具(CCM)RTM 复合材料零件等

技术资料

输出量 0.6 - 10 升/分 (10-166 克/秒)
 混合比例 1:4 至 4:1
 黏度 最大 5000 毫帕·秒(mPa·s)
 最大工作压力 200 巴
 占地面积 约 15 平方公尺

总重量 约 2000 公斤
 电源供应 3 x 400 伏特/ 50 赫兹/ 24 千伏安

*技术数据按具体情况调整

PSM3000

Universal PUR-high-pressure metering unit with hydraulic driven tandem plunger pumps. Adaptable up to the application, due to its modular construction.

- Fully heated component circuits
- Recirculation through the mixing head
- Fully automatic close loop regulation of mixing ratio and throughput
- Industrial-PC with touchscreen for processing
- Process visualization for the simplest parameter-set and repository
- Dynamic displays for control and trouble analysis
- Mechanically self-cleaning, purge-free mixing heads for high-pressure impingement mixing
- For spraying, casting and injection molding of filled and unfilled PUR-Systems
- Offers the possibility to realize smallest surge-free single shots as well as continuous spraying and casting

Application area

Spraying

Abrasion protection, coating spray, In-Mold-Skinning (IMS), spraying of adhesives, reinforcement of PMMA parts, PUR-reinforced fibrous structures, RIM spray, In-Mold-Coating etc.

Casting/injecting

Filter casting/gluing, golf balls, wire harness encapsulation, Table- and door edging, furniture-wood joints, wheels and rolls, PUR-Gel, skin injection molding, Clear-Coat-Molding (CCM), RTM Composite parts etc.

Technical data

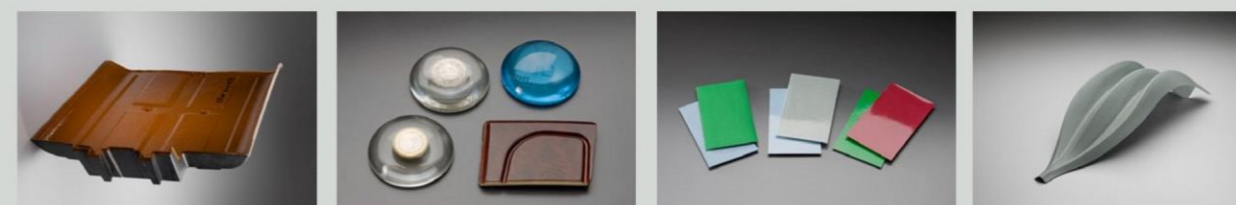
Throughput step less 0,6 - 10 l/min. (10-166 g/s)
 Mixing ratio step less 1:4 to 4:1
 Viscosities max. 5000 mPa·s
 Max. working pressure 200 bar
 Floor space ca. 15 m² (4 aggregates 1200 x 800mm)
 Total weight ca. 2000 kg
 Electric power supply 3 x 400 V / 50 Hz / 24 kVA
 Subject to technical changes.

Application

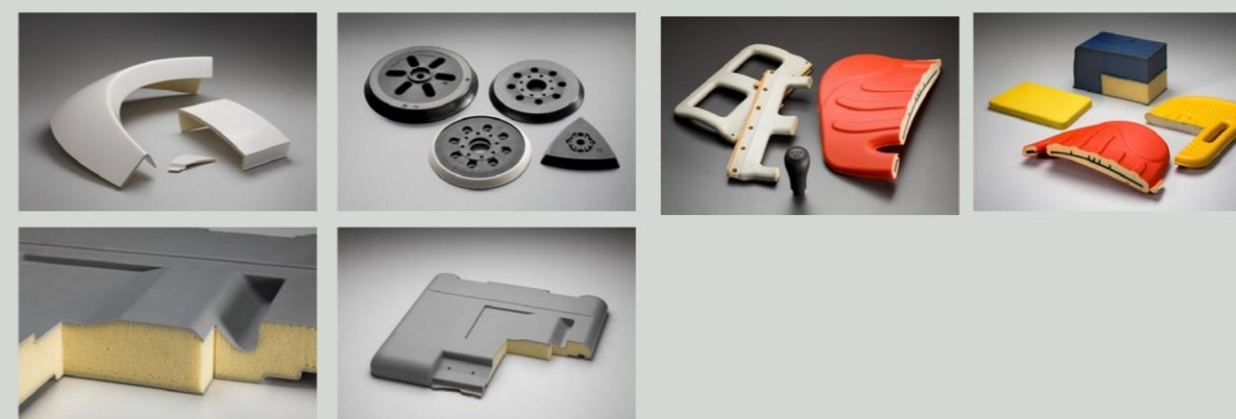
Car parts 汽车零组件



Coating and transparent Elastomers 透明弹性体与其涂层



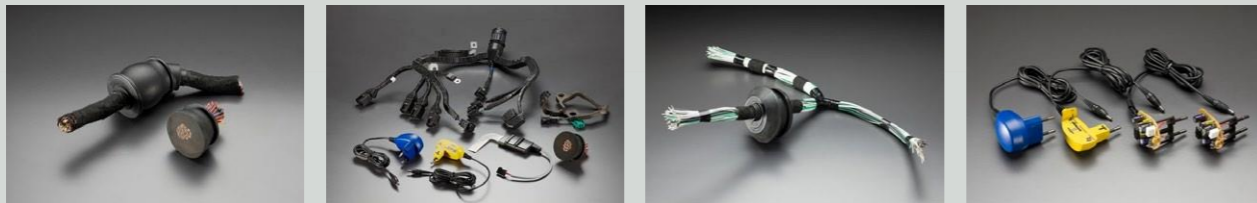
Coating and foaming parts 发泡件与其涂层



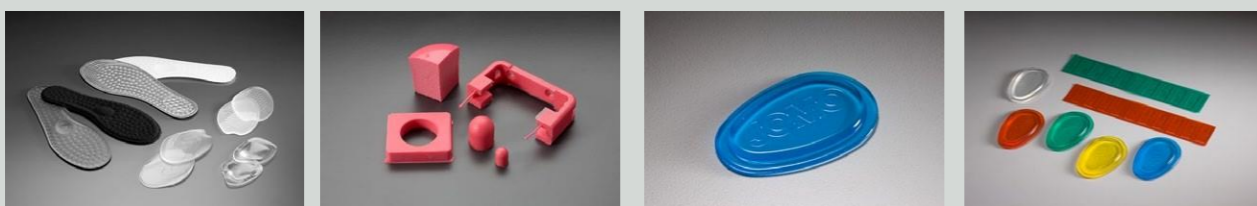
Construction 建筑材料



Wire harness encapsulation 线束包封



Gel parts 聚氨酯胶



Sports and clothes 运动与服饰





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