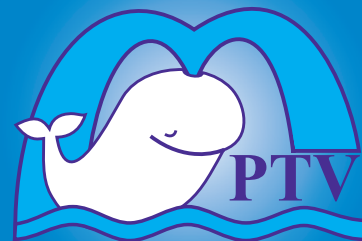


PTV, spol. s r.o.

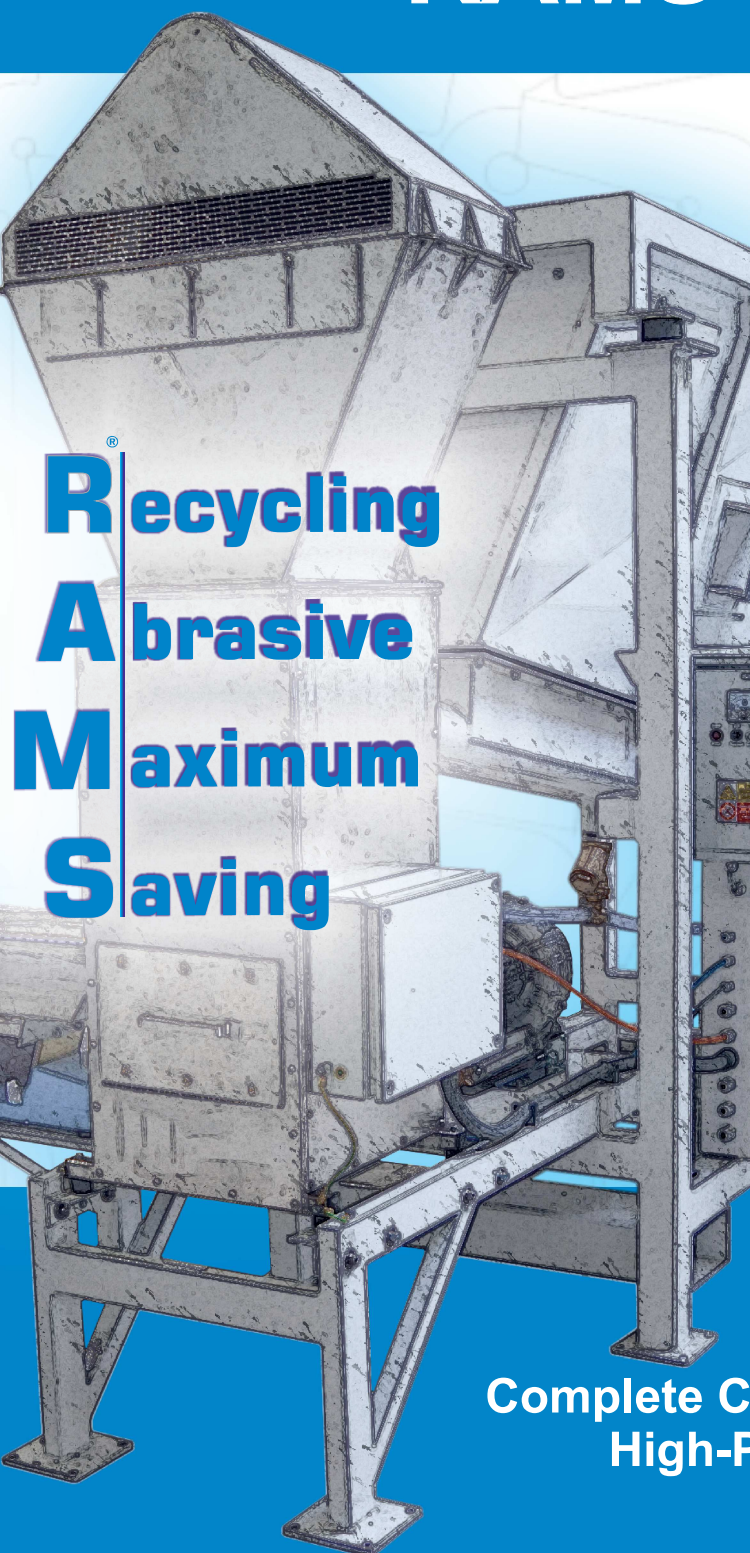
Recycling system

of used abrasive material

RAMS[®] SYSTEM



Ever Since 1991



Recycling
Abrasive
Maximum
Saving

**Sorting Unit
RAMS[®] V1**

**Sorting Unit
RAMS[®] V2**

**Sorting Unit
RAMS[®] V3**

**Drying Unit
RAMS[®] 1**

**Drying Unit
RAMS[®] 2**

**Complete Cutting Technology
High-Pressure Water Jet**

www.ptv.cz

PTV, spol. s r.o.

PTV COMPANY IS A LONG-TERM MANUFACTURER OF COMPLETE HIGH PRESSURE WATERJET CUTTING SYSTEMS. PTV EMPHASIZES A MAXIMUM IMPACT ON QUALITY, PERMANENT DEVELOPMENT AND INNOVATION OF PRODUCTS. ALL MANUFACTURED PRODUCTS ARE GOVERNED BY NEWEST WORLD TRENDS. THE COMPANY ITSELF IS DEVELOPING SUCH COMMODITIES AND LAUNCHES THEM ON THE MARKET

PTV, spol. s r.o. was founded in February 1991 by experts who (as representatives of FLOW Int. – USA) promoted the high-pressure waterjet technology already in 1986 year in Eastern Europe already. FLOW company has developed a high-pressure pump for use in the space program, and as the first in the world launched it for commercial use in 1971. From the initial period focused to a business only, PTV has transformed itself into a production-oriented company with an emphasis on its own development. The first HP pump of its own design was launched by PTV in 1996 and the first complex system including the CNC X-Y cutting table was produced in January 2000. The high pressure components used in the pumps are the products of H2OJET, USA, with which our cooperation has started in 2001.

PTV offers :

- Absolutely the greatest experience in the field of water jet in Eastern Europe - there are almost 800 installations of workplaces containing more than 650 CNC X-Y tables of our own production.
 - More than 70 highly skilled workers, many of whom have more than 25 years experience in waterjet cutting industry.
 - A wide range of technical solutions for standard products as well as economical variants, special applications, but also individual customer requirement, individual machine dimensions or application.
- Our high flexibility is the basic approach to customer's requirements.
- Extensive warehouse of operating material and spare parts.
 - Skilled team of service experts, if needed in 24/7 mode.
 - Experience in supplying our systems to abroad. PTV products are already installed in 36 countries in Europe, Asia and America.
 - Despite the generally proclaimed technical impossibility and economic disadvantage of recycling the used abrasive material, PTV has developed a unique **RAMS® Abrasive Recycling Facility that works automatically, efficiently, without the need for service and very economically.**
- RAMS®** machines are covered by two national patents and worldwide patent procedure is underway.

We produce

CNC machines for high-pressure water jet cutting
High pressure pumps
Abrasive removal systems
RAMS® recycling system of the used abrasive material
Our own control systems

We deliver

Complete technological units
Complete accessories
Spare & consumable parts
Abrasive material

We provide

Service interventions - Consultation

PTV spol. s r.o. is a holder of the ISO 9001 Quality Certificate since 2001. The quality management system is applied and monitored, and its efficiency has been constantly improved. It is maintained in accordance with company development and customer requirements.

QUALITY MANAGEMENT SYSTEM



ISO 9001

LL-C (Certification)



SYSTEM RAMS® of ABRASIVE RECYCLING *Scheme for obtaining a recycled abrasive*

efficiency
RAMS® SYSTEM
> 60%
up to **350kg/h**

NEW ABRASIVE MATERIAL

RECYCLED ABRASIVE MATERIAL



RAMS® V1

RAMS® V2



RAMS® V1

RAMS® V2

RAMS® V3

RAMS® 2

RAMS® V3

RAMS® 2

**RECYCLED
ABRASIVE MATERIAL**



RAMS® V1 / RAMS® V2

Recycling
Abrasive
Maximum
Saving

RAMS® V1

Compact automatic abrasive recycling facility

**Sorting unit of used abrasive material
for users with their own abrasive removal system**

The RAMS® V1 unit is the easiest device of RAMS® system and is designed for recycling of used abrasive material **for customers who already own abrasive removal system** from the waterjet machine catcher. It is an automatic device with continuous operation and with minimal operating requirements. The mixture from the abrasive removal system passes through the sorting unit, where it is divided into individual fragments, i.e. to the mixture suitable for further recycling and the waste which is returned to the existing removal system. The performance of the recycling unit is continually monitored by specially developed software and ensures maximum performance. The control of the sorting unit consists in the occasional checking that the system is in the sorting mode. After the sorting is finished, the operator should replace the filled big-bag for a new one. The output recycled material is prepared for the final drying phase and the separation phase of undesirable dust particles or residual waste in RAMS® 1 or RAMS® 2.



RAMS® V2

Compact automatic abrasive recycling facility

**Sorting unit of used abrasive material
for users without their own abrasive removal system**

RAMS® V2 unit is designed **for those customers who don't have their own abrasive removal system** from the waterjet machine catcher and who want to recycle used abrasive material for its next full reuse. Abrasive removal device which continuously sucks the water mixture and abrasive out from the machine catcher is part of the supplied RAMS® V2 machine. As well as RAMS® V1 and RAMS® V3, this is an automatic device for continuous operation with minimal operating requirements resting in the occasional inspections of operation status and exchange of the filled big-bag for a new one. The output recycled material is prepared for the final drying phase and the separation phase of undesirable dust particles or residual waste in RAMS® 1 or RAMS® 2.



RAMS® V3

Is a compact automatic abrasive recycling facility

RAMS® V3 - 1 Sorting unit

of used abrasive material, ie. waste from the CNC table catcher



RAMS® V3 unit is designed for those customers who process waste already extracted from their WJ machine catcher, but who have no disposal facility and who want to recycle the used abrasive material for its next full reuse. The first step rests in the rough sorting, which is part of the RAMS® V3 machine and treats the extracted sludge from the WJ machine catcher. The rough sorting safely separates material(s) suitable for further processing and primary waste material that does not contain the abrasive material, but only sludge clods together with the remains of the cut materials. Like the RAMS® V1 and RAMS® V2 models and the second stage RAMS® V3, this is an automatic device with minimal operating requirements resting in the occasional inspection of operation status and exchange of the filled big-bag for a new one. The output recycled material is ready for the wet sorting of recycled material from the residual waste in the second stage of RAMS® V3.



RAMS® V3

Is a compact automatic abrasive recycling facility

RAMS® V3 - 2

Sorting unit of used abrasive material



video HD

Wet sorting of the used abrasive material (ie. the second stage of RAMS® V3) is a vibrating sieve sorting device of the material obtained from the first stage. The separation of individual components occurs by washing away over the particular sieves. It includes a drain tank and, like the RAMS® V1 and RAMS® V3, this is an automatic device for continuous operation with minimal operating requirements, consisting of occasional inspection of operating status and replacement of filled big-bag. The output recycled material is ready for the final phase of drying and separation of undesirable dust particles or residual waste in RAMS® 1 or RAMS® 2 equipment.



RAMS® 1 / RAMS® 2

Recycling
Abrasive
Maximum
Saving

RAMS® 1

Compact automatic abrasive recycling facility

**The drying and final sorting unit
of the used abrasive**

The device is designed for final recycling of used abrasive material. **It is an automatic device for continuous operation** with minimum operator requirements. **The basic feature of this device is the use of residual heat from associated technological units or simple ambient heat.** The mixture prepared in RAMS® V1, RAMS® V2 or RAMS® V3 is accurately dosed into a screen drying space. The broken abrasive material after the exit from the screen space is driven into a cyclone unit where residual water vapor and residual dust component are separated. The performance of the recycling unit is continually monitored and the control software guarantees its maximum drying performance. A collecting big-bag is connected to the cyclone outlet. It's stored directly on a pallet weight allowing continuous scanning of evaluated abrasive weight. The output dry product is ready for further immediate use for WJ abrasive cutting.



RAMS® 2

Compact automatic abrasive recycling facility

**The drying and final sorting unit
of the used abrasive**

The device is designed for the final recycling of used abrasive material. **It is an automatic device for continuous operation** with minimal demands on the operator, which **uses electric energy for drying, so it is completely autonomous, independent on the nature and environmental conditions.** The mixture prepared in RAMS® V1, RAMS® V2 or RAMS® V3 is accurately dosed into a screen drying space. The water vapor and residual dust component are extracted from the furnace by an industrial filter unit. The dry abrasive, after leaving the furnace, passes through a vibrating separator that separates larger grains resulting from the drying process. The performance of the recycling unit is continually monitored and the control software guarantees its maximum drying performance. The output dry product is ready for further immediate use for WJ abrasive cutting.

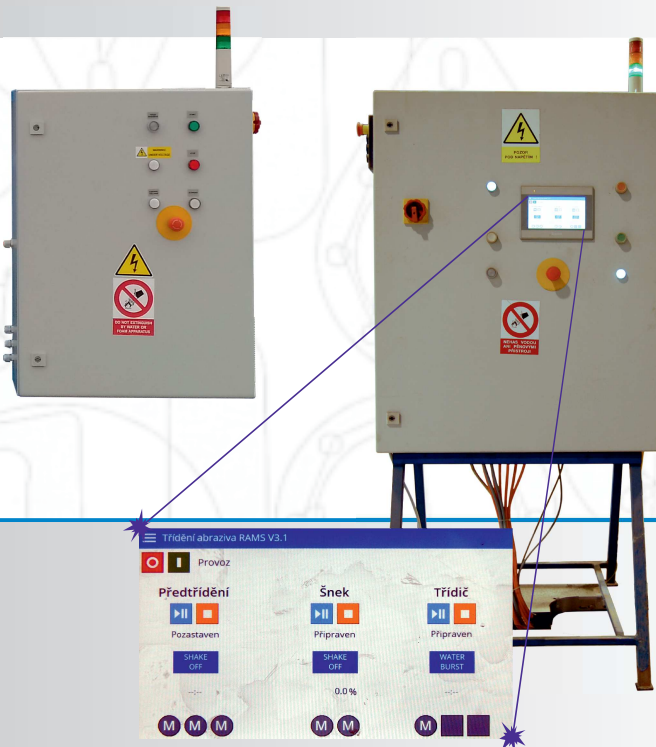


CONTROL SYSTEM

RAMS® V1 - RAMS® V2 - RAMS® V3 - RAMS® 1 - RAMS® 2

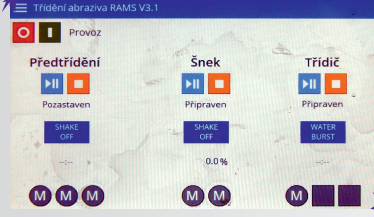
SOFTWARE for automatic operation of abrasive recycling system

All equipments for recycling of used abrasive material are operated intuitively and simply by specially developed software for automatic control of continuous operation with minimal operating requirements. All important parameters of the recycling process are monitored. In case of mode change, the control system itself adjusts the parameters for maximum efficiency and, in the case of an evaluation of the need for intervention, the operator automatically interrupts the recycling process and the operator is warned by the optical and acoustic signals. The RAMS® V3, RAMS® 1 and RAMS® 2 devices have control panels with touch-sensitive control panels.



TOUCH SCREEN

RAMS® V3 - RAMS® 1 - RAMS® 2



RAMS® SYSTEM

An event graph after the RAMS® system has been introduced into the production process

efficiency
RAMS® SYSTEM
> 60%
up to **350kg/h**

- Significantly reduced costs for purchasing a new abrasive
- Adjusting input data for cost-determining standards
- Reduction of the price offer for customers
- An interesting business opportunity



Recycling
Abrasive
Maximum
Saving



- The exciting price will expand an customer portfolio
- an increase of turnover at lower costs
- reduction of waste costs
- Independence from the current situation on the abrasive market

USED ABRASIVE MATERIAL IS NOT A WASTE
IT'S AN INVESTMENT IN YOUR FUTURE



IMPLEMENTED PROJECTS



PTV, spol. s r.o.
Čsl. armády 23
253 01 Hostivice
Czech Republic
Tel.: +420 220 981 430
Fax: +420 220 980 419
E-mail: obchod@ptv.cz



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