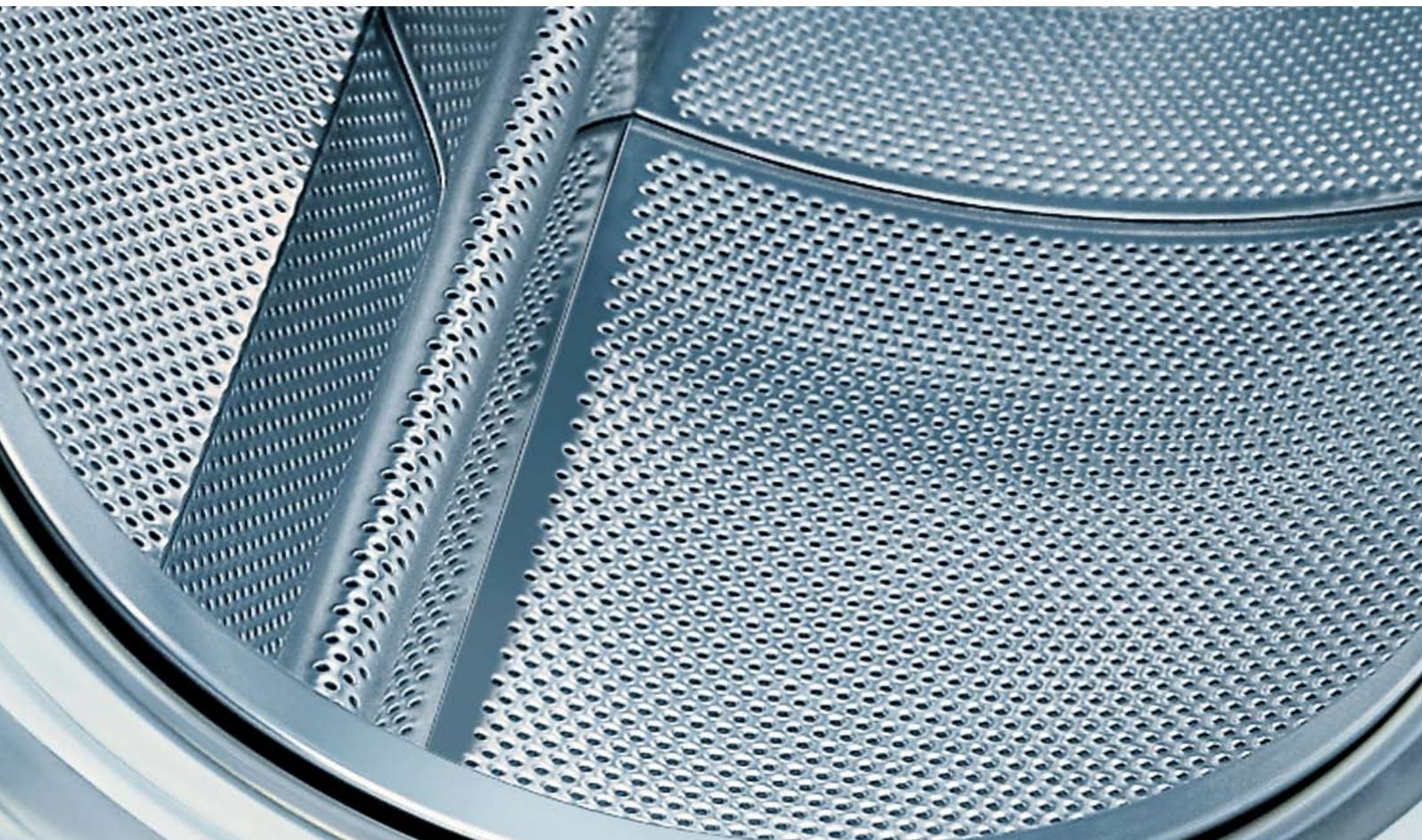


Schulthess Spirit Industrial

High Performance Laundry Technology for Comprehensive Fabric Care



Washing extractors for 10 – 30 kg loads
Dryers for 10 – 30 kg loads

Swiss Made 

Stay selective in your choice



SCHULTHESS

A Swiss Quality Product for Europe: reliable, durable, economical



Demanding tasks are our speciality

Innovative technology and long experience have made Schulthess into one of the leading manufacturers of washing extractors and dryers. That's why solutions from Schulthess can be found throughout Europe. They reveal their strengths wherever there are particularly challenging demands: professional and industrial users. In an environment where extraordinarily tough and high performance products are in demand.

Quality as a measure of all things

A central pillar of our quality strategy is the reputation of Switzerland as a development and production location. For generations, our products have borne the label "SWISS MADE". Our whole Spirit Industrial range for the European market is also made in Switzerland – using the most modern production technologies and high levels of reliability. And that's the way it will stay.

Economically and ecologically sound

Investing in a solution from Schulthess guarantees maximum efficiency and minimum operating costs for the long term. Environmental responsibility is just as important to us as economy. It begins in the production process, which is consistently focused on environmental criteria. Naturally, as well as ISO 9001 quality management certification, our company is also certified according to ISO 14001 for environmental management. Schulthess machines consider the environment not



just when washing and drying, but in the manufacturing process too.

At home in Europe

The watchwords of quality and durability make the name Schulthess a guarantee of first class laundry solutions for the professional sector all over Europe. Our comprehensive know-how, targeted innovative activities and high production skills form the basis for this. Cooperation with proven sales partners also ensures that all customers receive the competent advice and reliable service they expect from the Schulthess name at any time, wherever they are.



Professionals wash with Schulthess



Developed to satisfy the highest demands

Laundry solutions from Schulthess are tailored to environments in which the quality and quantity of the laundry to be handled bring particularly high demands:

- Retirement and care homes, homes for the elderly
- Hospitals and clinics
- Hotels and guesthouses
- Dining and catering establishments
- Laundries, fabric and leather cleaning facilities
- Commercial, industrial and transport operations
- Fire and rescue services

“All in one”: a convincing overall concept

The Spirit Industrial is designed for comprehensive fabric care and meets your every wish in terms of performance, quality and equipment. As well as conventional washing processes, it also offers modern wet cleaning. As a user, you therefore have the best conditions for professional fabric care to meet the most demanding needs. And all this comes with proven Schulthess quality: with short programmes, intelligent user comfort, minimum operating costs and maximum efficiency.

The Spirit Industrial family of machines includes six laundry extractors and four dryers for loads of 10 – 30 kg. They are designed according to the most modern standards and suitable for the whole gamut of modern fabric types. As a demanding professional, the Spirit Industrial gives you the ability to handle any washing or fabric care task with style.

Flexibility and high added value

The industrial laundry extractors and dryers from Schulthess include a comprehensive spectrum of highly developed special programmes for washing, wet cleaning and drying, even in basic configuration. With freely programmable additional programmes, this broad spectrum can be expanded with a range of additional wash programmes – tailored to your needs and the future. On one hand, this means that with the Spirit Industrial, you are equipped for professional and industrial laundry care at any time, according to the very latest standards. On the other hand, you have the ability to extend your added value chain and take care of particularly difficult or demanding laundry from A to B: hospital and home laundry, disinfection laundry, wet cleaning items, duvets and quilts, heavily soiled work wear, protective suits, work clothing and much more.



1 Concept, 3 Functions: Washing, Wet Cleaning, Drying

Professional washing, continuously



Intelligent and flexible

The professional controls of the Spirit Industrial WSI form the basis for the high levels of flexibility and user friendliness. They offer the user a variety of programmes tailored to wide ranging needs and maximum efficiency:

- 13 standard programmes with lots of extra options
- 22 target group specific special programmes
- 50 selectable user specific special programmes
- 14 wet cleaning programmes

Ease of operation increases productivity

The highest levels of operator comfort are a trademark of all Schulthess solutions. That's only to be expected in a range of machines designed to provide efficient, continuous operation and high productivity in a professional environment. The graphic display of the Spirit Industrial WSI ensures easy use, secure programme selection and clear communication. It provides the user with unmistakable instructions and information on all phases of the washing process.



In addition, there are clearly arranged buttons. They follow the logic of the washing process and are identified with clear and explanatory symbols which correspond to common fabric care symbols. And all this in 8 languages.

The future is programmed in

With the freely programmable controls, temperatures, wash times, drum speeds, reverse cycles and spin times and speeds can all be flexibly programmed. 50 free programme slots are provided for exactly this purpose, which are accessible via an infrared interface. This concept makes it possible to tailor the microprocessor controlled programme range to your needs and to the future:

- Programmes tailored to your own washing needs can be changed or added at any time.
- Programme adjustments for cleaning new fabric types or to meet new developments in procedural technology are possible at any time.
- It is also possible to change the control of external liquid detergent dispensing (location, pump speed) at any time via the IR interface.

What's more, Schulthess Wash Card offers further opportunities to expand the range of programmes with additional programmes for specific target groups in the simplest possible way.

Precise programme control

Well thought out, differentiated programmes are one thing. However, for your washing processes to run smoothly, a reliable programme progression is also important. One of the strengths of the Spirit Industrial WSI: its temperature sensors guarantee precisely controlled temperature changes and the load automation with level sensor ensures the right amount of water is used for your load.

Leverage benefits

The development of innovations for professional and industrial fabric care has always had the highest priority at Schulthess. That's not by chance, for wherever usage is intensive, improvements tend to have particularly wide reaching effects. The Spirit Industrial WSI laundry extractors have many advantages over ordinary machines:

- Clearly improved washing effect, even at comparatively low temperatures.
- High standards of hygiene and disinfection are achieved effortlessly.
- Thanks to higher washing efficiency and shorter programme times, energy and detergent consumption with high laundry throughput each day.
- Gentle care to suit the fabric extends the lifetime of fabrics and reduces procurement costs.

A fine thing: up to 22.659 drum holes

The drum of the Spirit Industrial WSI is made of high quality chrome nickel steel and has extremely fine holes in comparison with ordinary models. In conjunction with the specially designed scoop ribs, this fine perforation with up to 22.659 drum holes increases the efficiency of the washing process significantly. This guarantees excellent washing and rinsing results:



- Rapid wetting of laundry
- Intensive circulation of washing liquid
- More efficient rinsing out of dirt (including coarse particles) and detergents
- Perfect, even impregnation
- More effective water removal during spinning
- Shorter drying times

It goes without saying that this unique drum surface with its fine perforations is particularly gentle to your laundry – especially delicate fabrics – and thus increases the lifetime of your laundry.

User comfort takes top priority

This is illustrated, for example, by the generous and robust jumbo door. It has a diameter of 40 cm and opens to an angle of 165°, offering the user maximum comfort when loading or unloading – even bulky items of laundry (duvets, bedspreads, protective clothing, etc.).

It thinks 99 hours ahead

A practical touch from the Spirit Industrial WSI is the automatic time remaining display, which tells you the programme time remaining at any moment. However, time Preselection is also highly valued, whereby the programme start time can be specified up to 99 hours in advance. You can therefore systematically benefit from cheaper nighttime electricity prices. At the same time, this increases the flexibility and productivity of the laundry, because the first wash of the day can be set to start when the next job begins on the evening before or over the weekend.

Durable power pack with fine sensitivity

The Spirit Industrial WSI laundry extractors are fitted with the most efficient drive technology available today. The frequency rectified asynchronous motor provides a gentle, gradual transition of speed between all stages of the washing process. This allows individual fine adjustments to speeds for each fabric and guarantees that delicate fabrics are cared for gently in all wash and wet cleaning processes. The motor operates without symptoms of wear and has a lifetime of more than 30.000 wash cycles. The professional drive concept of the Spirit Industrial WSI guarantees spin speeds of up to 1150 rpm (458 g). In combination with the extremely dense drum perforations, this results in maximum water removal with residual moisture of 46 %.

Practical detergent dosing

The well thought out, user friendly detergent dosing system offers a variety of advantages:

- Detergent is added via a generously sized dosing container at the front.
- The dosing container can be used for powder, liquid detergent and laundry aids.
- With five dosing containers, even the most technically demanding programmes can be managed easily.
- The construction is based on corrosion resistant chrome nickel steel and is largely maintenance free.
- The detergent dosing system is already prepared for the addition of liquid detergents via external pumps.
- The unique and flexible programme structure allows simultaneous dosing of detergents and laundry aids via the dosing container or dosing pumps.



Water recovery reduces water, detergent and energy consumption

The Spirit Industrial WSI laundry extractors have an optional water recovery system, which significantly reduces water consumption and consequently energy consumption too. The water recovery tank is integrated into the plinth to save space and, thanks to the fluff filter and front slot-in system, is very easy to clean. Detergent, rinse water or impregnation solution can be drawn from the recovery tank as required, depending on the programme. This concept is particularly suitable for cost effective and environmentally friendly bath impregnation of protective clothing for the fire service. Schulthess laundry extractors not only contribute to

reducing the burden on our environment, but also allow you to work more economically with the aid of water recovery.

Well considered additional equipment

Users of professional machines rely on perfect additional equipment. The Spirit Industrial WSI convinces you with practical components, for example:

- Machine plinth (+23.5 cm) for the ideal ergonomic loading height
- Machine plinth with integrated water recovery system
- Module to connect and control 8 – 14 liquid detergent dosing pumps
- Mains switch for energy management.

Flexible heating

The wide variety of customer wishes is especially well reflected in the variety of heating options. To meet the relevant wishes and construction differences, all Spirit Industrial WSI laundry extractors can be supplied with the most modern heating variants: electrical, direct steam, indirect steam, external heating.

In addition, a model with a switchable combi version of direct steam/electric heating is available (so that you can continue to wash during boiler servicing or repairs; also practical for hotel use in the low season).

5 IMPORTANT ADVANTAGES AT A GLANCE

Programme variety: 13 standard programmes, 22 special programmes, 50 user specific programmes and 14 wet cleaning programmes form the starting point; flexible programme changes and individual extensions are possible at any time.

User comfort: The graphic display and clear buttons ensure a smooth user experience and delay-free processes in your laundry.

Productivity: The finely perforated washing drum, the high performance asynchronous motor, the short programme times and intelligent functions such as time Preselect ensure optimum washing results and the highest efficiency.

Durability: Under the SWISS MADE quality stamp, we guarantee high quality key components and precise manufacturing for problem-free operation (tested with 30.000 loads).

Economy: The low consumption values, excellent washing and rinsing efficiency, optional water recovery system and gentle fabric care directly and indirectly (fabric life) ensure values that your financial director will definitely like.

Wet cleaning included: gentle, environmentally friendly, inexpensive



With its industrial laundry extractors and dryers, Schulthess offers a system solution for washing and wet cleaning a wide variety of fabrics. The tried and tested wet cleaning process from Schulthess is particularly suited to gently cleaning and caring for modern and delicate fabrics. According to the “all in one” principle, they are equipped as well as possible for fabric care in the future with their integrated wet cleaning programmes.

The benefits:

- The special, tried and tested wet cleaning programme, tailored precisely to the delicate properties of fabrics, cares gently for the laundry using environmentally friendly liquid detergents.
- Delicate fabrics are cared for with hygienic cleanliness and a neutral odour.
- Instead of using solvents and chemicals, wet cleaning uses water, environmentally friendly detergents and laundry aids and polished machine technology to provide hygienic fabric cleaning.
- Water is a good dirt and grease remover when combined with environmentally friendly detergents and laundry aids.
- Creasing is very low thanks to item specific processes and special equipment, reducing ironing costs to a minimum.

- Wet cleaning is particularly ideal for retirement and care homes, where the highest levels of cleanliness and hygiene are demanded.
- The options for inhouse fabric care are increased by the numerous applications that previously had to be delegated to an external specialist (e.g. personal residents’ laundry in retirement homes).
- The “all in one” system solution from Schulthess with integrated wet cleaning is the laundry care system of the future.

A few examples of clothing that can be cared for best with wet cleaning:

- Outerwear such as coats, trousers, jack-ets, waistcoats, pullovers (wool, angora, silk, cashmere)
- Wedding dresses, ball gowns
- Breathable sports and rainwear, down jackets, Gore-Tex or Sympatex based ski suits, etc.
- Bedspreads such as wool covers, quilts and rheumatism blankets, duvets, sleeping bags.
- Problem laundry from care and hospital environments which place particularly high demands on hygiene and disinfection.
- Protective clothing for fire and rescue services
- Uniforms, work wear
- Leather goods and motorcycle clothing

Efficient and inexpensive drying



A good team needs two

In a professional environment, the Spirit ProLine dryers are ideal addition. Like the laundry extractors, they are a Swiss quality product, designed for the highest reliability, durability and economy. Performance and capacity are such that one dryer normally works as a team with two laundry extractors. This allows efficient processes in the laundry – without queuing and waiting.

Uniform communication, efficient programmes

The Spirit ProLine dryers are equipped with a range of new innovations. Visible at first glance is the new machine control system with two line graphic display. On the dryers too, the communicative graphic display ensures absolute clarity and the highest levels of user friendliness without additional instruction for each user.

Another characteristic is high efficiency. It reduces energy consumption and leads to incredibly short programme times which are very gentle to your laundry. A load can be wardrobe dry in just 30 minutes. Programme progress and duration are precisely controlled by microprocessors and electronic sensors.

Ease of use

The Spirit ProLine dryers are intended to make your daily work easier. For example, with a generous door with a

diameter of 53 cm which opens to an angle of 180°. The door can be hinged right or left and can be adapted to the requirements of any location. On top of these are other practical details such as finish time Preselection with a real time clock or the improved, tough and generously sized fluff filter, to make maintenance even easier.

A pleasant climate in the workplace

The Spirit ProLine dryers also have a central connection on the back for fresh or preheated air. This means that these machines can be combined with heat recovery systems



or heat pumps as you wish. This is economically as well as ecologically interesting and also improves the climate (draughts!) in the laundry.

High energy efficiency thanks to integrated heat recovery

The explanation for the extraordinary efficiency of the Spirit ProLine dryers lies with their design. Some of the fresh air is drawn in through the side walls, preheated by

the through the waste warmth and radiated heat from the motor, fan, drum and exhaust air hose, then conventionally heated and pumped into the drum diagonally through the laundry. In conjunction with other innovative details, this innovative heat recovery system provides an increase in drying efficiency and a significant improvement in effectiveness. At the same time, it reduces the amount of heat radiated to the outside. The heat remains where it is needed: in the dryer.

OVERVIEW OF FURTHER CHARACTERISTICS

All in one: suitable for washable and wet cleanable fabrics

Heat recovery: lower energy consumption, better drying performance, reduced heat radiation.

Gentle: automatic reverse, cool down and crease protection.

Reliable: handles high loads and is extremely durable thanks to professional construction with robust and maintenance free central drum bearings without rollers.

Quiet and safe: just 64 – 66 dB(A); conforms to EU and CE standards with additional safety elements: automatic stop when door is opened, airflow monitoring, overheating protection and emergency off switch.

PROGRAMMES

A wide range of microprocessor controlled drying programmes from iron damp to extra dry for all common fabrics and textiles guarantees a high laundry throughput per day.

10 wet clean programmes with memory function
Time programme up to 150 minutes



ADDITIONAL FUNCTIONS

Gentle drying for temperature sensitive fabrics, easy care drying, memory function for user defined initial dampness levels for laundry mangling, individual adjustments to dryness levels.

Programme progress and time remaining display and sound signal at end of programme with adjustable volume, end time Preselection up to 24 hours.

OPTIONS

Right hinged door

Central fresh air connection

Machine plinth (+18 cm) for TRI 8250 and TRI 8375

Mains switch kit for energy management.



Spirit Industrial WSI Laundry Extractors

Company or brand name		Schulthess	Schulthess	Schulthess	Schulthess	Schulthess	Schulthess
Type of appliance		Washer extractor					
Type of sales description		SPIRIT INDUSTRIAL WSI 100	SPIRIT INDUSTRIAL WSI 125	SPIRIT INDUSTRIAL WSI 150	SPIRIT INDUSTRIAL WSI 200	SPIRIT INDUSTRIAL WSI 250	SPIRIT INDUSTRIAL WSI 300
Product no.		9521.0	9522.0	9523.0	9661.0	9662.0	9663.0
Washer extractor							
Load capacity/dry washing 1:10	kg	10	12.5	15	20	25	30
Drum capacity	dm ³	100	125	150	200	250	300
Infinitely variable speed	r.p.m.	30–1150	30–1100	30–1050	30–1000	30–950	30–900
Factor g	g	458	419	382	442	403	362
Residual moisture ¹⁾	approx. %	46	48	50	47	49	50
Program duration ²⁾	approx. min.	60	60	60	60	60	60
Electrical Installation							
Connected rating electric heating	kW	11.4	14.1	16.8	22.8	28.2	33.6
Reduced connected rating electrical heating ³⁾	kW	5.7	7.2	8.4	11.4	14.4	16.8
Motor	kW	1.1	1.1	1.1	2.2	2.2	2.2
Voltage	V	400 V 3 N-					
Fuse rating	A	20 AT	25 AT	30 AT	40 AT	60 AT	60 AT
Energy consumption per load ²⁾	approx. kWh/kg	0.2	0.2	0.2	0.2	0.2	0.2
Voltage for steam heating	V	230 V 1 N-	230 V 1 N-	230 V 1 N-	400 V 3 N-	400 V 3 N-	400 V 3 N-
Fuse rating for steam heating	A	16 AT	16 AT	16 AT	25 AT	25 AT	25 AT
Heating Installation (steam)							
Connected ratings	kg/h	18–21	23–26	27–31	37–42	45–51	54–62
Connection	inches	³ / ₄					
Pressure (overpressure)	min. bar	0.6	0.6	0.6	0.6	0.6	0.6
	max. bar	13	13	13	13	13	13
Steam consumption per load ²⁾	kg	6–7	7.5–8.75	9–10.3	12.3–14	15–17	18.3–20.6
Plumbing Installation							
Water pressure: by the customer	bar	3–10	3–10	3–10	3–10	3–10	3–10
Cold water inlet, hard ³ / ₄ "	l/min.	15–31	15–31	15–31	15–31	15–31	15–31
Cold water inlet, soft, from softener ³ / ₄ "	l/min.	15–31 ⁴⁾	15–31 ⁴⁾	15–31 ⁴⁾	15–31	15–31	15–31
Hot water inlet from central water boiler max. 90 °C ³ / ₄ "	l/min.	15–31	15–31	15–31	15–31	15–31	15–31
Water consumption ²⁾	approx. l/kg	15	15	15	15	15	15
Water consumption with recovery system ²⁾	approx. l/kg	11.5	11.5	11.5	11.5	11.5	11.5
Drain line (outer)	ø mm	75	75	75	75	75	75
Drain throughput	l/min.	90	110	135	180	220	270
Details for shipping/planning purposes							
Width of machine	mm	887	887	887	1078	1078	1078
Depth of machine	mm	774	939	939	857	1057	1057
Height of machine	mm	1370	1370	1370	1569	1569	1569
Height of machine including base (option)	mm	1539	1539	1539	1746	1746	1746
Weight of machine	kg	400	420	435	600	645	670
Operating weight (incl. water + laundry)	kg	455	489	517	710	782	835
Soil bearing (static)	kg/m ²	645	575	608	749	674	719
Shipping weight	kg	415	435	450	620	670	695
Packed cubage	m ³	0.95	1.16	1.16	1.45	1.7	1.7

1) Cotton fabrics (175g/m²) following ISO 9398-4

2) 60°C wash cycle

3) Variant: reduced heating output with hot water connection min. 55°C.

This can produce a prolongation of the programme.

4) 2 inlets to connect

Spirit ProLine TRI Dryers

Company or brand name		Schulthess	Schulthess	Schulthess	Schulthess
Type of appliance		Dryer	Dryer	Dryer	Dryer
Type of sales description		SPIRIT PROLINE TRI 8250	SPIRIT PROLINE TRI 8375	SPIRIT PROLINE TRI 8550	SPIRIT PROLINE TRI 8750
Product no.		9648.0	9649.0	9642.0	9643.0
Professional Dryers					
Loading capacity	kg	10	15	22	30
Drum capacity	dm ³	231	347	508	690
Program duration (laundry ready to put away/initial moisture 50%)	ca. min.	29	31	31	31
Drum diameter	mm	776	776	1075	1075
Drum depth	mm	490	735	560	760
Evaporative capacity	l/min.	0.17	0.24	0.35	0.48
Drying output (initial moisture 50%)	kg/h	20.7	29	42.5	58
Electrical installation					
Voltage	V	400 3N~	400 3N~	400 3N~	400 3N~
Connected rating	kW	15.4	20.2	31.05	40.65
Electric heating	kW	14.4	19.2	28.8	38.40
Motors	kW	1	1	2.25	2.25
Fuses	AT	25	35	50	60
Option		Central air connection Machine base	Central air connection Machine base	Central air connection	Central air connection
Voltage (upon request)	V	230 3~	230 3~	–	–
Fuses	AT	40	60	–	–
Ventilation installation					
Exhaust air output	max. m ³ /h	900	1100	1350	1600
Installed line resistance	max. Pa	200	200	300	300
Exhaust air connection	Ø mm	200	200	200	200
Details for shipping/planning purposes					
Width of machine	mm	842	842	1150	1150
Depth of machine	mm	793	1038	888	1088
Height of machine	mm	1460	1460	1793	1793
Height of machine including base (option)	mm	1640	1640	–	–
Filling height	mm	580	580	705	705
Filling height including base (option)	mm	760	760	–	–
Filling opening	Ø mm	530	530	530	530
Weight of machine	kg	200	220	360	400
Operating weight (incl. laundry)	kg	216	244	404	460
SoL bearing (static)	kg/m ²	324	279	400	400
Shipping weight	kg	224	246	400	440
Packed cubage	m ³	1.23	1.58	2.07	2.53

Schulthess stands for innovation and reliability

Long experience and the ability to continue to surprise with innovative products and methods have made Schulthess, a Swiss company, one of the technologically leading suppliers of laundry extractors and dryers.

Our machines are SWISS MADE. They are exclusively made at our side in Wolfhausen near Zürich – in extremely modern and continually updated production plants. Schulthess solutions are used in more than 40 countries throughout Europe and around the world.

Always there for you

Schulthess is not just there for you with innovative laundry extractors and dryers. Together with our sales and service partners throughout Europe, we support our customers with modular services and after-sales service tailored to your needs. We are there for you around the clock, whenever you need to enable reliable, technical and economical operation of your laundry.

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