

WALL OUTLET

It's general system installed from one outlet to five outlets at wall side of OR, Treatment Room and general ward through safety device to use each gas smoothly supplied from central supply system of medical gas.

This system have structure that gas flows just to fix adapter in use and gas confirmly closes just to draw out it from outlet. Also it's an impossible to mix different kinds of gases due to different structure of adapters and outlets by kind of gas. It's a safe by double safety device, namely, check. Not only it's a convenient by module method for functional addition and maintenance but also it makes hospital more safe ward atmosphere by a beautiful apperance.



Pin Push Button Type

Oxygen | Nitrous Oxide
Medical Air | Vacuum

Puritan Bennett Type

Oxygen | Nitrous Oxide
Medical Air | Vacuum

Ohmeda Type

Oxygen | Nitrous Oxide
Medical Air | Vacuum

Back Plate Type



Box Type



Wall Revealed Box |

Pin Push Button |
Oxygen, Vacuum,
Slide Base

Wall Concealed Box |

Pin Index Twist

Wall Concealed Box |

Pin Push Button

Adapter Parts



■ Pin Index - Hose Nipple ■ Pin Index Twist - 1/8" Male ■ Ohmeda - 1/8" Male ■ Puritan Bennett - 1/8" Male ■ Oxequip - 1/8" Male ■ Schrader - Hose Nipple

CEILING OUTLET

Spring Hose Type



In using medical gas, this system is a basic ceiling outlet system that outlets of medical gas have been installed in ceiling of OR, Delivery Room and Premature Room which is hard wards to install outlets in the side wall.

WALL SUCTION UNIT

It consists of suction regulator and suction container. With connecting to vacuum outlet of hospital and as regulating pressure properly, it's device to remove a foreign substance from patient.



FLOWMETER w/ Humidifier

With connecting to gas outlet, it's device to supply oxygen to patient as regulating artificial oxygen flow.

It has a merit not to be broken easily with strong durability and it's smooth surface treatment with poly carbonate glass materials, too.



MOVABLE KICK TYPE SUCTION UNIT

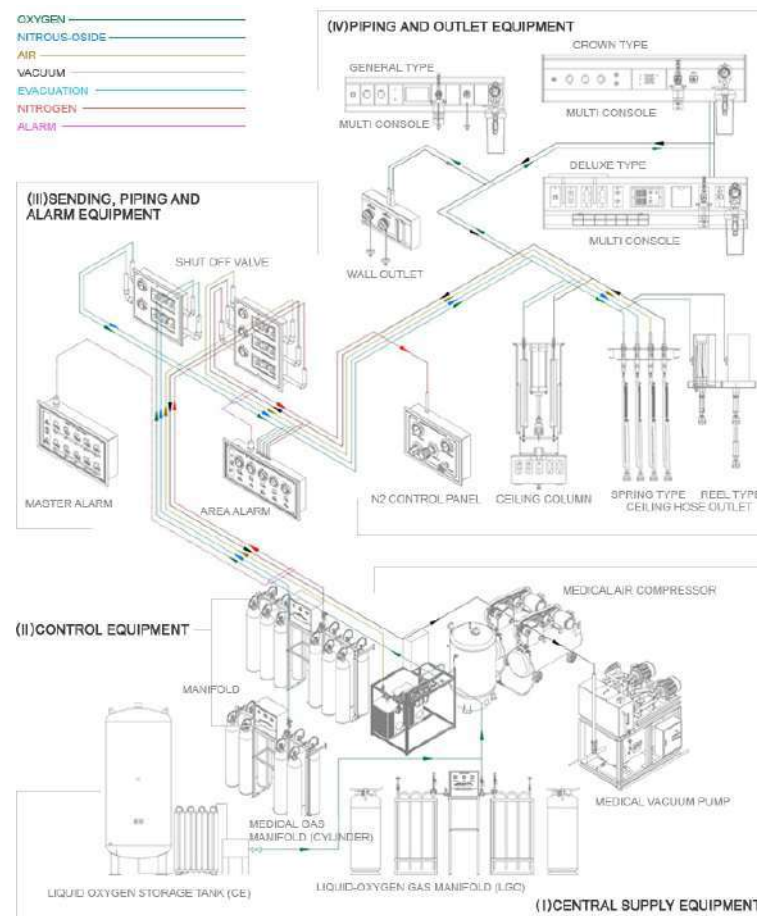
With connecting to vacuum outlet, it's device to remove lots of foreign substance from a surgical patient. Its pressure can be used as regulating properly.



Medical Gas Distribution System

Medical Gas Distribution System is a central supply system to supply a depressurized medical gas (O₂, N₂O, N₂), medical air, and medical vacuum to each ward of hospital safely and conveniently through a central supply piping from medical gas supply sources installed at machinery room.

Generally, medical gas equipment consists of supplying equipments, outlets equipments, secondary and general piping method has been mostly used with copper tube "L" type and "K" type.



MEDICAL GAS MANIFOLD SYSTEM

Medical gas manifold system is designed to provide high gas flows while requiring minimal maintenance. It is intended for use in applications that require an interrupted flow of gas without fluctuating line pressure.

Design according to ISO13485 and NFPA99.

The gas offer: Oxygen, Nitrous oxide, Compressed air, Nitrogen, may be ordered as special items.



MEDICAL VACUUM PUMP SYSTEM

Oil Sealed Type

Oil sealed rotary vane vacuum systems are available in a multitude of configurations. Simplex tank mount, Duplex tank mount, as well as Triplex, and Quadruplex stack mount system.

The system shall include interconnecting piping and wiring to provide a functional operating package with applicable electrical and plumbing connections at the installation site.



MEDICAL GAS ALARM SYSTEM

Analog Display Type

Gauge display type alarm system is wall mounted unit the gas gauge monitor in up to six gases pipe line and sound alarm wire to a printed circuit board located on the rough-in assembly. Each add-on module can be programmed to provide specific information, based on the medical facility's needs.

Master Alarm



Generally master alarm installing in central control room is system to monitor an operating sound against malfunction of gas supply system, compressed air, and vacuum pump, gaseous exhaustion, malfunction of machines by over electric current and so on.

Area Alarm



Area alarm installs at each floor of corridor and nurse call station of important departments like ER, ICU, and OR and monitors abnormal pressure and so on.

EXCESS GAS PURGER

It's system in the wall of OR that forces to exhaust unnecessary excess anesthetic gas outside by air purging system abandoned from anesthetic machine in operation



MEDICAL AIR COMPRESSOR SYSTEM

It's system that makes and supplies a clean medical axenic air which compressed air created by air compressor has passed air dryer filter to remove moisture, dust and bacteria. It uses for driving a respirator, for regulating oxygen density, for removing foreign substance of operating instruments and for driving air drill of dental surgery.



SHUT-OFF VALVE UNIT



Medical gaseous supply area in hospital divided into each floor. It's system easily to repair only a strange occurred floor of medical gas without having an effect on another floor.

MODULAR OPERATION THEATER

 **Nine Sunplus Systems**



 **Nine Sunplus Systems**

Nine Sunplus System Company Limited
NO.906-910, Central Fortune Plaza, NanCheng,
Dongguan City, Guangdong Province, China
Tel: +86-769-2302-4218 / +86-769-2302-4228
Fax: +86-769-2302-4298
Email: sales@ninesunplus.com
Website: www.ninesunplussystem.com

ADVANTAGES of Modular Operation Theater

- ◆ **CONFIDENCE**
 - ◆ The cost clearly stated in advance
 - ◆ Remarkably short realization times
 - ◆ Guaranteed hygiene
- ◆ **VERSATILITY**
/throughout the execution of the works
 - ◆ Low noise, clean, and dry installation procedures
 - ◆ Modification can be made easily on the job
- ◆ **FLEXIBILITY**
/once the structure is in operation
 - ◆ Maintenance performed rapidly
 - ◆ Changes can be made easily to the operational layout
- ◆ **INNOVATION, ENVIRONMENTAL COMFORT, VISUAL IMPACT**

3 MODELS of Modular Operation Theater



SEAMLESS COATED STEEL WALL PANEL

- Construction with clip system
- OT skin with 1.2mm or 1.6mm thick galvanized steel back up 9mm or 12mm gypsum board
- Powder painting on-site, scratch free
- Innovation, environmental comfort, and visual impact



STAINLESS STEEL WALL PANEL

- Construction with clip system
- OT skin with 1.0mm or 1.2mm thick stainless steel 304SS back up 12mm gypsum board
- Easy to clean, joint filled with glass cement or silicone keder
- Innovation, environmental comfort, and visual impact



GLASS PANEL

- In a glass OT,
- upper port of wall panel is made in glass
 - lower port of wall panel is made in SS or powder coating EGP
 - ceiling panel is made in SS or powder coating EGP
 - glass wall panel is with 4mm+4mm thick tempered glass back with SS or EGP wall panels
 - customized graphic is available
 - construction with clip cladding system

MOST IMPORTANT ELEMENTS of Modular Operation Theater



◆ **SLIDING DOOR**



◆ **HINGED/SWING DOOR**



◆ **LEAD SHIELD DOOR**



◆ **LED X-RAY VIEWER
WITH/WITHOUT SHUTTER**



◆ **CABINETS**



◆ **WRITING
TABLE**



◆ **MEMBRANE/TOUCH SCREEN
CONTROL PANEL**



◆ **POWER SOCKET BOX**



◆ **MEDICAL
TERMINAL BOX**



◆ **PASS BOX**



◆ **PERIPHERAL LIGHTS**



◆ **PENDANT**



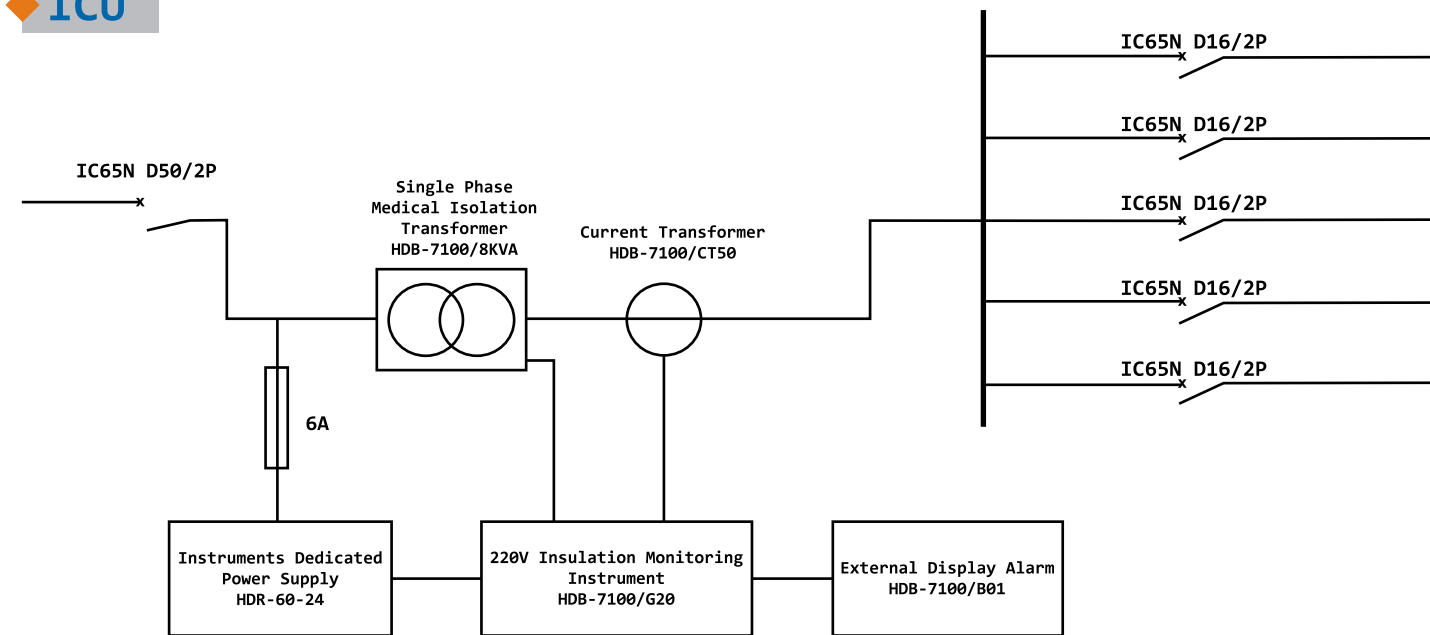
◆ **RETURN AIR GRILL**



◆ **LAMINAR AIR FLOW**



◆ **PRESSURE RELIEF
DAMPER**



The medical isolation transformer, built into the HDB-7100 series of medical isolation power cabinets, is designed for medical applications requiring high efficiency, low noise isolated power supply, noise sensitive medical instruments and sophisticated vision equipment.

This series of transformers features low noise, low quiescent current and high conversion efficiency. The HDB-7100 series power cabinet integrates the HDB-7100/G20 insulation monitor. This device is based on the same kind of production. The high-performance medical insulation monitoring is designed according to the relevant standard specifications.

Device HDB-7100/G20 has characteristics of fast response, low test current and high measurement accuracy. Sensitive monitoring and protection designed for real-time monitoring of equipment operation, information on the insulation status, load, temperature, etc of the grid. Time protection monitors the operation of the power grid, and immediately acts and replaces when an abnormality occurs, and can interlock the relevant equipment for interlock protection, providing an effective and reliable guarantee for the power supply safety of the IT system.

System available in 4 kVA, 5 kVA, 6.3 kVA, 8 kVA and 10 kVA.

MEDICAL IT ISOLATED POWER SYSTEM



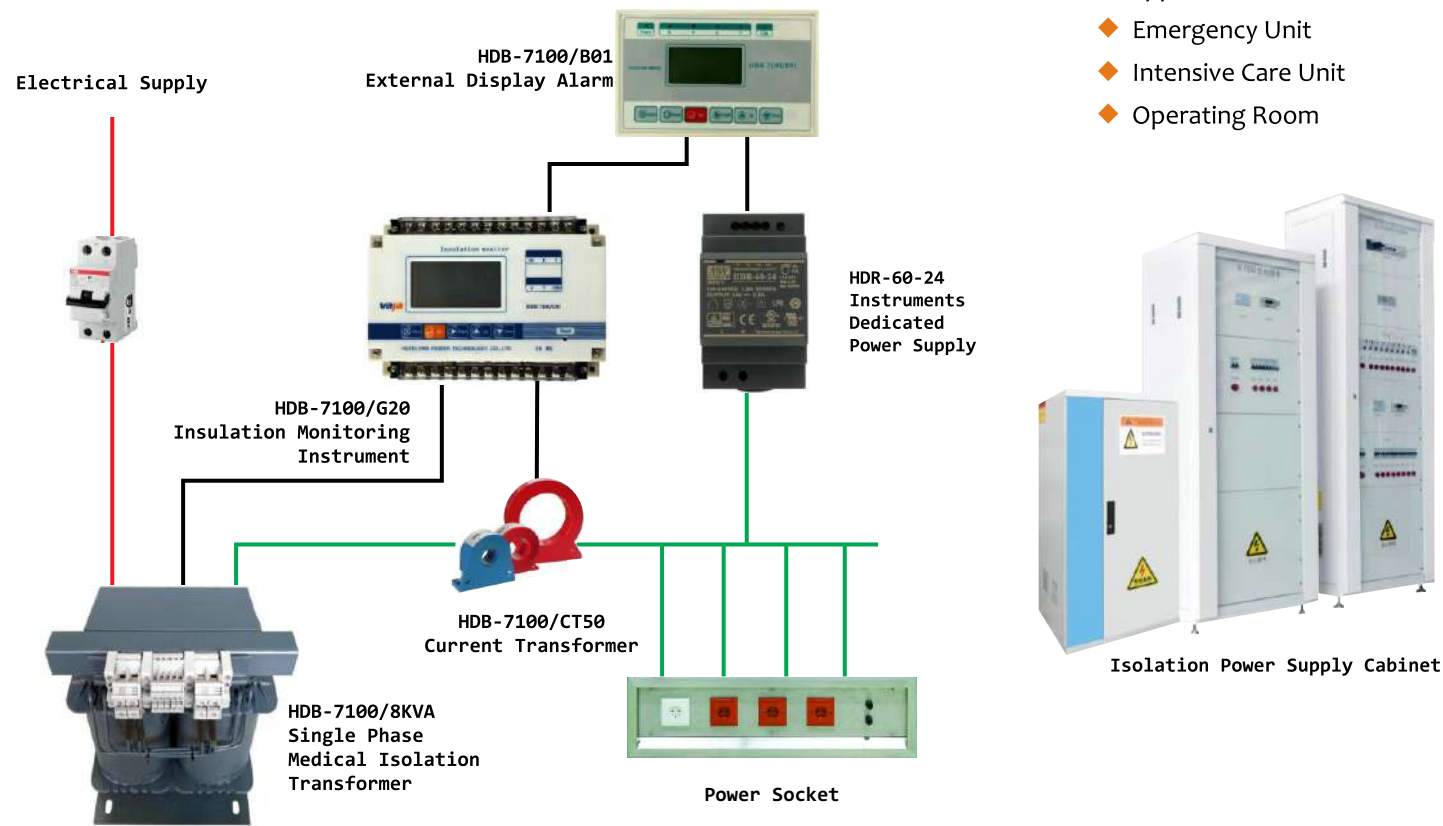
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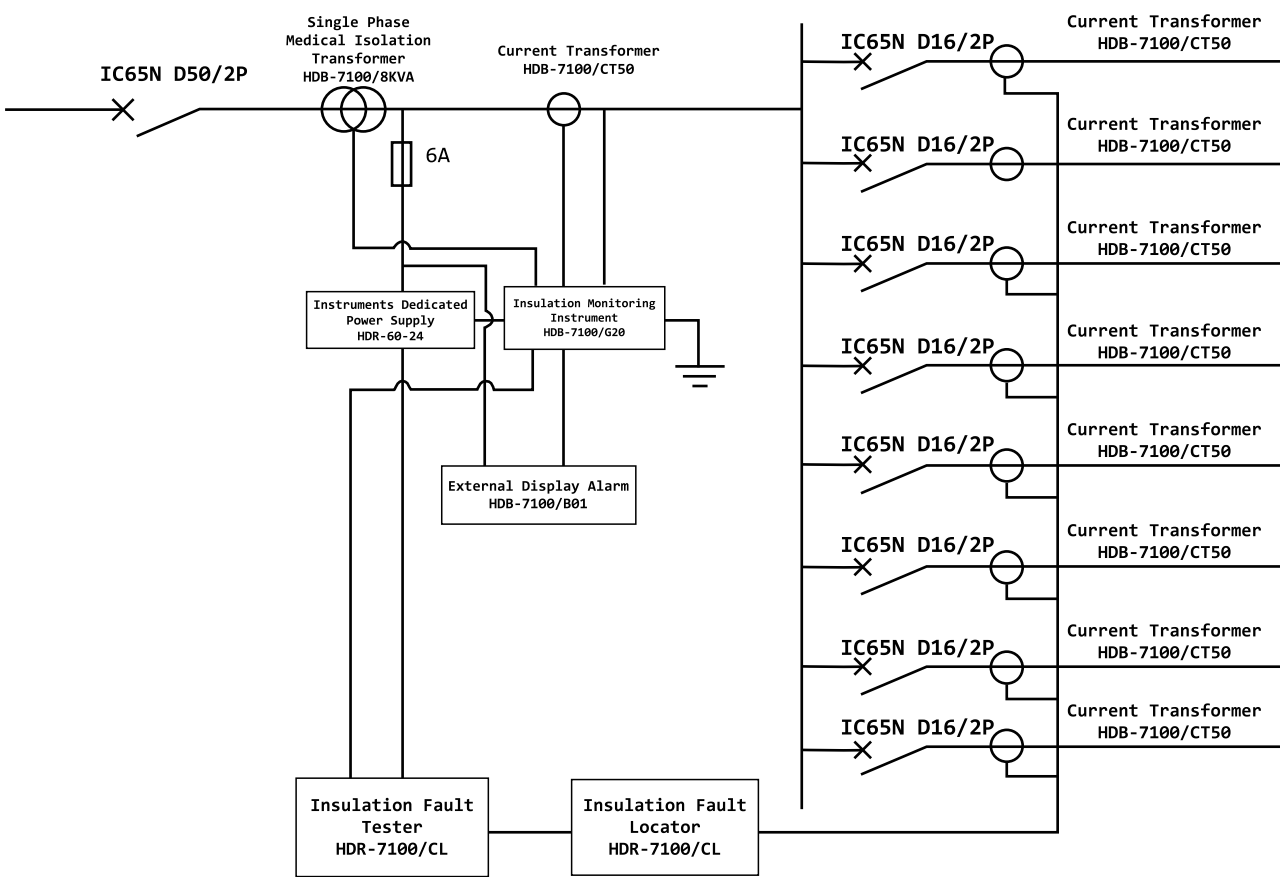
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DESIGN DRAWING OF TYPICAL APPLICATIONS

OPERATING ROOM



TECHNICAL PARAMETERS OF INSULATION MONITOR

Insulation Monitoring	Accuracy	±3%	Temperature Monitoring	Response Value	0-200℃
	Measured Voltage	≤ 24V		Accuracy	±2%
	Max Measured Current	≤ 50μA		Alarm Range	0-200℃ (adjustable)
	Alarm Range	0-999KΩ(adjustable)		Delay	<2s
	Delay	< 2s			
Load Monitoring	Impedance	F=50Hz	Voltage Monitoring	Response	0-500V
	Response Value	0-50A		Accuracy	±2%
	Accuracy	±2%		Alarm Range	0-500V (adjustable)
	Frequency	50/60Hz		Delay	±2%
	Alarm Range	0-50A (adjustable		Frequency	50/60Hz
	Delay	<2s	Display	LED	
Working Environment	Operating Temperature	-10℃-70℃	Communication Method	RS485 interface MODBUS-RTU	
	Storage Temperature	-20℃-70℃	Communication Distance	≤ 1200m	
	Temperature	90%RH	Altitude	≤ 2500m	
	Alarm Output	Output Mode	3-way output relay	Installation Method	Rail mounting or panel mounting or screw mounting
Contact Capacitance		AC 250V 3A DC 30V 3 A			
Measuring principle: monitoring Electromagnetic Compatibility and Electromagnetic Radiation by injecting a DC measurement signal between the insulated conductor's ground and measuring the resulting ground leakage current: complies with IEC 61362-2-4 standard					





HDB-7100/8KVA
Single Phase
Medical Isolation
Transformer



HDB-7100/G20
Insulation Monitoring
Instrument



HDB-7100/CT50
Current Transformer



HDB-7100/B01
External Display Alarm



HDB-7100/CL
Insulation Fault
Tester



HDB-7100/D08
Insulation Fault
Locator



HDB-7100/L12
Residual Current
Monitor



HDR-60-24
Instruments Dedicated
Power Supply

THE INTELLIGENT PNEUMATIC TUBE SYSTEM

Your Advantages

- / RFID technology
- / Quality improvement in the logistic chain
- / Reducing error sources, better patient care
- / Greater administrative efficiency
- / Greater sample processing speed
- / Adherence to data protection regulations
- / User-friendliness through graphic control panels
- / Integration into hospital's information system
- / Transmission of important information such as transport status and arrival notification

Risk Management for Save Transport

- / Documentation of transport of the carrier with defined content
- / Linking logistical data: staff data, carrier ID, station and dispatch data
- / Statistical analysis and processing of all data
- / Integration into other identification systems such as EAN code
- / Zero-Risk Management: only authorised staff has access to stations.



Station



Blower



Monitoring



Diverter



Central Control Unit



Auto-Unload

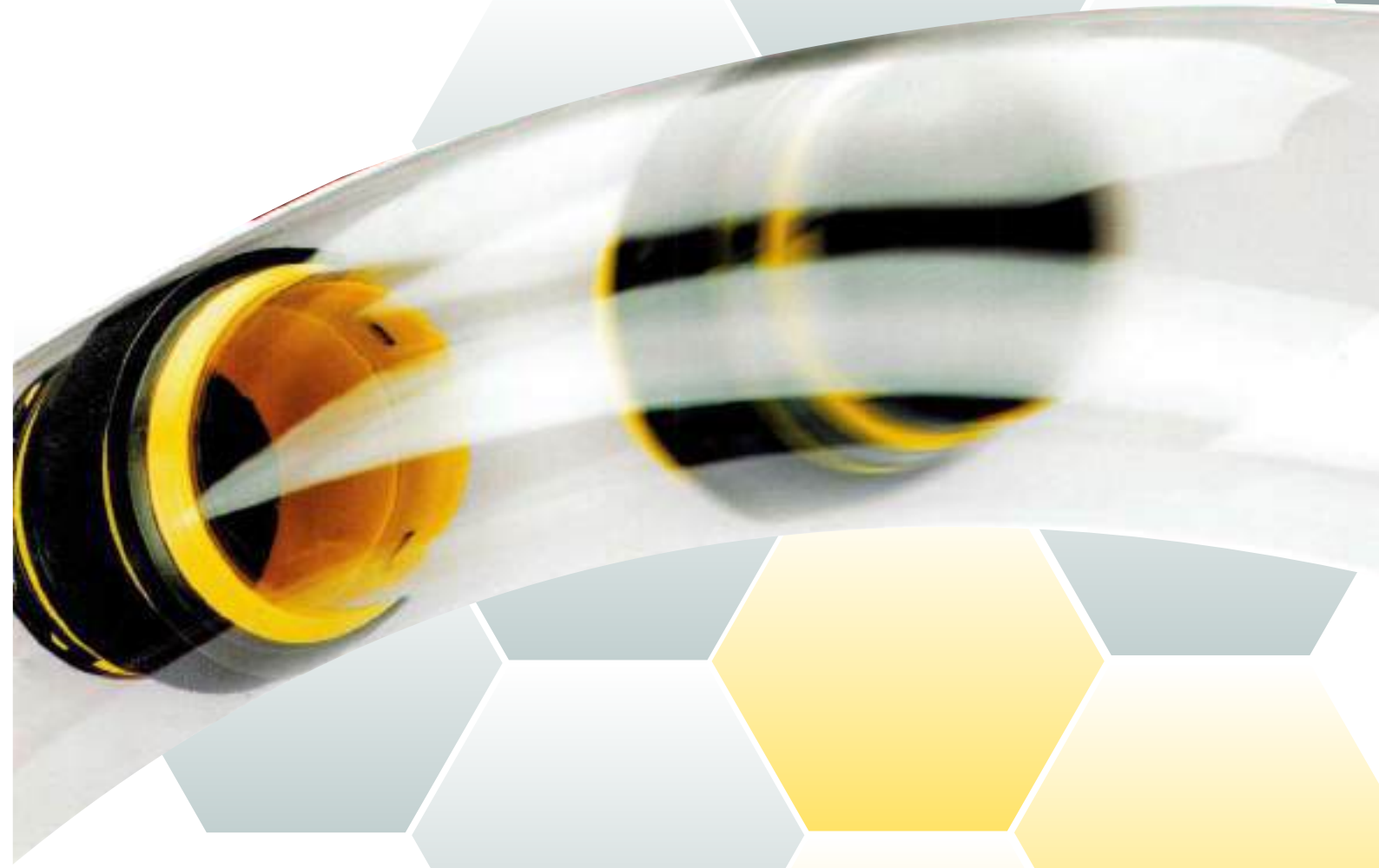
Process optimization through automatic connection to lab and pharmacy

- Carriers are not handled manually
- Greater productivity and quality in the lab through automation
- No germ spreading through fully automatic carrier mechanism
- Greater flexibility and space through intelligent design
- Availability of carriers around the clock
- Empty carriers are not sent back or stored manually
- Constant availability and delivery of medication through fully-automatic handling
- Centralized drug logistics for more space and less stock



Pneumatic Tube System for Hospitals

Every Second Counts



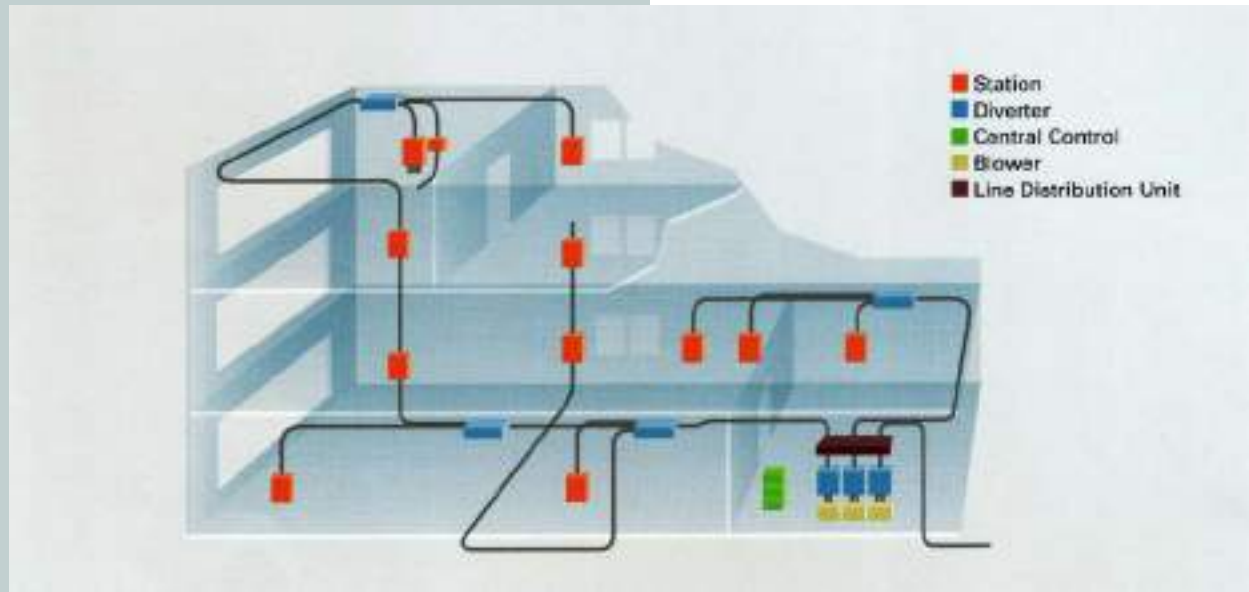
www.sumetzberger.com



HOW TO WIN THE RACE AGAINST TIME

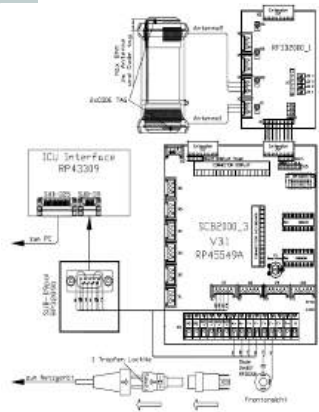
The Competent Partner for Pneumatic Tube Solutions

Sumetzberger is the technology leader for high-quality pneumatic tube system for the healthcare service, retail, industry and administration. With our decades of experience, we have the necessary in-depth expertise that makes us a leading innovator. We at Sumetzberger develop and manufacture our own plant components and provide mature control and software engineering, and are thus able to provide tailor-made, comprehensive solutions complete with consultancy, training and after-sales service.



Flexibility Through Trendsetting Technologies

Sumetzberger does not just see itself as a leading worldwide manufacturer, but also as a developer of advanced solutions. Our in-house development department is responsible for user-oriented solution concepts. This way, we are able to meet customer wishes and requirements quickly and flexibly.



Success Through Experience, Know-How and Service

All customer-specific solutions are based on the many years of experience and the expertise of our component engineers and technicians. We offer complete solutions from one source, including consultation and support from our specialist

THE POWER TRANSFER SOLUTION

Pneumatic Tube System in The Modern Clinical Centre

- More efficient nursing staff, no time wasting due to deliveries and collections.
- Automated sample transport prevents cross-contamination.
- Centralized lab solutions continuously receive specimen from all sample points and wards.
- Shorter surgery times, instantaneous and frozen sections reach pathology department directly.
- Fully automatic loading and unloading technology for process optimization.
- Fully automatic sample unloading saves space and time.

Time Saving

/ Transport across long distances within just a few moments.

Greater Productivity

- Doctors and nursing staff are able to deal with more important task
- Qualified staff does not unnecessarily lose time by running errands
- Peak lab periods and bottle necks will be reduced
- This in turn ensures efficient analyses and speedy results and staff has less work to do

Improved Capacity Utilization

- Optimize organizational processes
- Lab facilities and pharmacies can be utilized in more centralized way and are therefore more efficient
- The pneumatic tube system creates more efficiency as it makes minor errands redundant and there is always enough staff on the wards

Greater Safety and Hygiene

- Maximum leakage safety protects facilities and users from contamination
- Cross air contamination between wards is avoided
- Easy cleaning and disinfection in accordance with hygiene standards.

No Loss of Quality

- Impact-free and gentle transport
- Travel speed can be varied

Economic Efficiency

- No personnel costs such as for errands
- Smooth and safe operations
- Amortization period is 1 to 2 years



Blood sample



Pharmaceuticals



Urine Sample

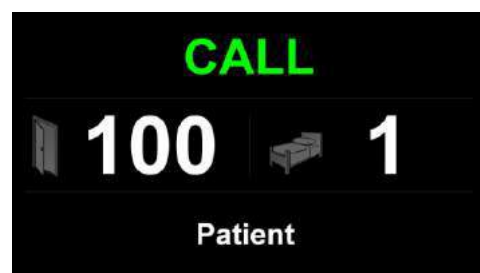
Master Terminal



Description

- The master terminal centralizes the operation of the communication equipment in a room with permanent service, which in most cases is the nurse office.
- The terminal offers a highly comfortable and clearly arranged graphic user environment linked with simple operation and control of functional buttons directly on the operating graphic touch-screen display.
- 10,4" LCD panel with direct control on a touch-screen. USB port for data backup and software upgrade.
- Communication by means of LAN, with use of the most up-to-date VoIP technology.
- Possibility to mount it on the wall or place anywhere at the table.

LCD Panel



Description

- A clearer and more comfortable variant of DI-07.
- It is used for call date, time and location including its identification display and distinguishes call type by colour code.
- Any size of LCD panel (for example 22,5" to 55"). Any size of LCD panel (for example 22,5" to 55").
- Can display the name of the caller as an option.
- Most often located on department corridor wall-mounted or ceiling-suspended.
- Allows for double display variant for reading on both sides (It is necessary to specify the possible placement of LCD display when order is placed, due to the type of holder, which is the part of LCD panel).
- Power supply 230V

Room Terminal with Voice



Description

- Allows for loud voice call connection to the control exchange Master Terminal.
- Used mainly at wards or doctor and nurse offices.
- After staff registration with the respective button receipt of optical and acoustic information about any type of call to the department is activated. The voice navigation at the same time notifies the staff about the place and reason of the call.
- Another function is loud announcement replaying in the case of for example a central announcement.
- Room Terminal includes a loudspeaker, but this function is not part of standard equipment, so must be informed about this requirement in advance.
- Dimensions : 151 x 82 x 23 mm

Emergency Call Button & Pull Cord



Description

- Variant of the emergency call pull rod with one extra button.
- The button as well as the pull rod are used for emergency calls.
- Most often installed in bathrooms, WC, washbasins, bathroom, shower, etc.
- The pull rod length is adjustable so that the call may be activated by a patient who has fallen on the ground.
- The switch allowing the activation of an emergency call in connection with the room terminal.



Codaco
ELECTRONIC

**SIGNALING
SYSTEM
WITH FUTURE
TECHNOLOGY**

VISION-IP



EUROPEAN UNION
European Regional Development Fund
Operational Programme Enterprise
and Innovations for Competitiveness

Codaco
ELECTRONIC
INNOVATORS OF ELECTRONIC SYSTEMS

ISO 9001:2008