

自控专业用词汇

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一、自控专业用词汇 Terms per process control

流量 Flow

物位 Level

液位 Liquid level

温度 Temperature

压力 Pressure

分析 Analysis

指示 Indicating

记录 Recording

传递 Transmitting

控制 Controlling

调节 Regulating

信号 Signaling
联锁 Interlocking
积算 Integrating
遥控 Remote controlling
信号报警 Alarming
声光信号 Acoustic and light signals
多点记录 Multipoint recording
多点指示 Multipoint indicating
集中检测 Controlized measurement
人工操作 Manual operation
测量范围 Measuring range
分度号 Graduation
输入 Input
输出 Output
刻度 Scale
等分刻度 Equally divided scale
等百分比 Equal percent
精度(指仪表) Precision
精度(指测量) Accuracy
流量特性 Flow character(istic)
线性(调节阀) Linear
对数(调节阀) Logarithmic
方根(指记录仪) Square root
力矩(指执行器) Moment
公称力矩(指执行器) Nominal moment
行程(指执行器) Stroke
常温 Ambient temperature
常压 Atm. Pressure
微分 Derivative
积分 Integral

上限值 Upper limit
下限值 Lower limit
取压点 Pressure tapping point
检测点 Measured point
取样点 Sampling point
正环室(指孔板) Plus carrier-ring
负环室(指孔板) Minus carrier-ring
均压环(指孔板) Pressure-equalizing ring
伴热管线 Tracing pipe
脉冲(导压)管线 Impulse pipe
负迁移 Negative suppression
正迁移 Positive suppression
保护管(指热电阻,热电偶) Sheath
测温(保护)套(指设备带的) Thermowell
插入深度 Insertion length
(浸入深度) (Immersion length)
仪表盘开孔 Panel-board cut-out
一次仪表 Primary instrument
二次仪表 Secondary instrument
现场(就地)安装 Field (local) mounting
盘装 Panel mounting
架装 Rack mounting
柱上安装 Pole mounting
侧面安装 Side mounting
盘面安装 Surface mounting
壁装 Wall mounting
滞后 Lag
易接近性 Accessibility
可见性 Visibility
(安装)位置 (Mounting) location

间隙 Clearance

接管 Piping

接线 Wiring

注字(指铭牌) Inscription

二、温度测量仪表 Temperature measuring instrument

工业双金属温度计 Industrial bimetallic thermometer

玻璃水银温度计 Mercury-in-glass thermometer

电接点压力温度计 Manometric thermometer with electric contacts

光学温度计 Optical pyrometer

表面热电偶 Surface thermocouple

镍铬-镍硅热电偶 Chromel-silicel thermocouple

镍铬-镍铝热电偶 Chromel-alumel thermocouple

铂铑-铂热电偶 Platinum-rhodium platinum thermocouple

固定螺纹(普通式) 镍铬-镍铝热电偶 Chromel-alumel thermocouple with fixed threaded bushing

固定螺纹(防溅式) 镍铬-镍铝热电偶 Splash-proof chromel-alumel thermocouple with fixed threaded bushing

双支热电偶 Twin thermocouple

铠装热电偶 Armored thermocouple

铂热电阻 Platinum resistance thermometer

表面热电阻 Surface resistance thermometer

可动法兰普通式铂热电阻 Platinum resistance thermometer with movable flange

温包 Thermal bulb

三、压力测量仪表 Pressure measuring instrument

弹簧管压力表 Burdon-tube manometer

氨用压力表 Ammonia manometer
氨用电接点压力表 Ammonia manometer with electric contacts
隔膜压力表 Diaphragm sealed manometer
法兰膜片隔离式压力表 Flanged diaphragm sealed manometer
标准压力表 Standard pressure gauge
电接点弹簧压力表 Bourdon-tube manometer with electric contacts
氨用真空表 Ammonia vacuum-gauge
膜片真空表 Membrane vacuum-gauge
风压表 Output air pressure gauge
膜盒式微压计 Capsule-type micromanometer
双波纹管差压计 Differential pressure gauge with double bellows
活塞式压力计 Piston type pressure gauge
补偿微压计 Compensating micromanometer
带冷凝管压力表 Manometer with condensing tube

四、流量、液位测量仪表 Flow & level measuring instruments

椭圆齿轮流量计 Ovalgear flowmeter
湿式气体流量计 Wet type gas flowmeter
气远传转子流量计 Pneumatic remote transmitting rotameter
靶式流量计 Target flowmeter
玻璃转子流量计 Glass type rotameter
玻璃管液面计 Glass-tube level gauge
浮标式遥控测液位计 Remote measuring float level meter
环室标准孔板 Standard orifice with carrier-rings
标准孔板 Standard orifice
带柄平孔板 Plate orifice with handle
组合式高压孔板 Assemble type HP orifice
环室1/4圆喷嘴 Quadrant nozzle with carrier-rings
蜗轮流量变送器 Turbine flow transmitter

频率转换积算器 Frequency transducer with integrator

三阀体 Three-valve manifold

三通电磁阀 Three-way solenoid valve

小口径旋翼式冷水水表 Rotating vane type cold water-meter

TYQ-2型外浮筒液面调节器 Type TYQ-2 external cage displacer level controller

QBF3型单插入式法兰差压变送器 Type QBF3 single insertion flanged differential pressure transmitter

带平面(或槽面,凹面)密封面的节流装置 Throttling device with flat (or grooved, female) sealing surface

法兰上钻孔取压的节流装置 Throttling device with drilled holes on flange

带槽面(或凹面)环室取压的节流装置 Throttling device grooved (or female) carrier-ring

圆形均压环取压的孔板 Orifice plate with circular pressure-equalizing rings

五、显示仪表 Displaying instruments

旋转刻度自动平衡指示仪 Self-balancing indicator with rotating scale

长图自动平衡记录仪 Strip-chart self-balancing recorder

条形自动平衡显示仪 Self-balancing strip indicator

动圈式温度指示调节仪 Moving coil type temperature indicating controller

小条型(自动平衡)指示仪 Small strip-type (self-balancing) indicator

指示压力调节器 Indicating pressure controller

六、分析仪表 Analyzers

磁氧分析器 Paramagnetic oxygen analyzer

红外线气体分析器 Infrared type gas analyzer

热磁式氢气分析器 Thermal-conductivity hydrogen analyzer

磁饱和稳压器 Magnetic saturated voltage stabilizer

稳压器(气体用) Manostat

干燥器 Drier

过滤器 Filter

转子流量计 Rotameter

标准气钢瓶 Standard gas cylinder

压力调节器 Pressure regulator

气水分离器 Knock-out drum

七、气动单元组合仪表 Instruments of the pneumatic aggregate

二针一笔指示调节仪 Double-point single-pen indicating & recording controller

气动二针记录仪 Pneumatic double-pen recorder

气动一针记录仪 Pneumatic single-pen recorder

气动条形指示仪 Pneumatic strip-type indicator

气动色带指示仪 Pneumatic colour-strip indicator

气动温度变送器 Pneumatic temperature transmitter

气动压力变送器 Pneumatic pressure transmitter

气动绝对压力变送器 Pneumatic absolute pressure transmitter

气动法兰式差压变送器 Pneumatic flanged differential pressure transmitter

气动差压变送器 Pneumatic differential pressure transmitter

气动液位调节变送器 Pneumatic level controller transmitter

气动双法兰隔膜式差压变送器 Pneumatic double-flange diaphragm separated type
differential pressure

transmitter

气动串级指示记录调节器 Pneumatic cascade indicating and recording controller

空气过滤减压阀 Air pressure regulator-filter

气动自锁阀 Pneumatic self-locking valve

大功率过滤器 Large capacity filter

气动阀门定位器 Pneumatic valve positioner

气动遥控板 Pneumatic remote control station

气动旁路遥控板 Pneumatic by-pass remote control station
气动付线板 Pneumatic by-pass station
五孔气插座 Five-hole pneumatic socket
气动加减器 Pneumatic adder-subtractor
气动继动器 Pneumatic relay
电-气转换器 Electric-pneumatic transducer
气动定值器 Pneumatic loading station
气动积算器 Pneumatic intergrating counter
比值变送器 Ratio transmitter
大功率减压阀 Large capacity pressure regulator
空气安全阀 Air safety valve
气动差压变送器 Pneumatic differential pressure transmitter
变差 Variation
膜盒 Capsule
背压 Back pressure
膜片 Diaphragm
力平衡原理 Force-balance principle
主杠杆 Force-bar
拉条组件 Tension assembly
反馈波纹管 Feedback bellows
正(负)压室 High (low) pressure chamber
静压误差 Static error
反馈力矩 Feedback monent
静压轮 Static aligement
温度误差 Temperature error
牵移机构 Elevation and depression unit
隔离液 Sealing liquid
基准液面 Reference level
牵移弹簧 depression spring
抵消 Balance out

平衡状态 Balance condition

最大牵移范围 Maximum range of elevation depression

单门过载冲击 Over pressure impact from either direction

拉滚,凹陷, 裂缝或腐蚀 Scratched, cracks or erosion

咬合深度 Depth of jamming

姿式误差 Error position

拉紧力应更大些 Tighter to great torque

调压螺钉 Pressure adjusting screw

零点漂移 Zero shift

故障现象 Troubles

恒节流孔 Fixed restrictor

波纹深度 Depth of undulars

回差大 Exceeded variation

输出缓慢 Output sluggish

负载容积 Loading capacity

查漏清堵 Check for piping leaks & eliminate any clogs

输出振荡 Vibrating of output

行程误差 Progressive error

气动指示记录调节器 Pneumatic indicating and recorder controller

串级记录调节器 Cascade recording controller

记录纸速度 Chart speed

笔记录式 Continuous pen writing

记录纸驱动机构 Chart drive mechanism

浮环 Floating disc

灵敏度 Limitation of sensitibility

平衡状态 In equilibrium

气(电)插座 Air (electric) connecting plug

阀芯 Valve core

报警指示器 Alarm indicator

微分阀 Derivative restrictor

比例加积分作用 Proportional plus reset action

积分阀 Reset restrictor

平面节流阀 flat throttling valve

反馈压力瞬间变化值 Immediate change in feedback pressure

自衡单元 Automatic balancing unit

扇形板 Sector level

手动-自动的切换装置 Manual to automatic transfer

给定与测量机构 Set point unit and measurement receive assembly

同步误差 Synchro error

比例度 Proportional band

等速法 Uniform velocity method

阶跃法 Step change method

八、执行器 Actuator

气动薄膜调节阀 Pneumatic diaphragm control valve

流量特性 :直线 Flow characteristic: Liner

对数 Logarithmic

信号压力 Signal pressure

公称力矩 Nominal moment

带手轮散热片阀门定位器 With hand wheel , radiator & valve

气闭 Air to close

气开 Air to open

快开式 Quick-open type

高压气动薄膜执行机构 High pressure pneumatic diaphragm actuating mechanism

气动活塞切断阀 Pneumatic piston cut-off valve

带手轮散热片 With hand wheel , radiator

气动长行程执行机构 Pneumatic long-stroke actuating mechanism

九、其他 Other

隔离器 Sealing pot

调压器 Pressure regulator

框架式仪表盘 Frame type instrument panel-board with sides bend back

半模拟仪表盘 Semi-graphic instrument (panel-board)

空白半模拟仪表盘 Blank semi-graphic instrument panel-board

左侧门 Left side door

右侧门 Right side door

直形橱式操纵台 Console with wardrobe

仪表箱 Instrument box

保温箱 Heat insulated box

仪表保护箱 Instrument protecting box

铭牌框 Nameplate

光字排 Illuminated nameplate

右开门左封闭柜式仪表盘 Case type instrument panel-board with door at right side & left side enclosed

十、仪表检验设备 Calibrating devices for instruments

低电位直流电位差计 Low-potential D.C. potentiometer

直流复射式检流计 D.C. reflecting galvanometer

便携式饱和标准电池 Portable saturated standard cell

高温管式电阻炉 High temperature electric resistance tubular furnace

单双臂两用直流 Single-arm & double-arm (double-purpose) D.C. bridge

携带式直流单臂电桥 Portable single-arm D.C. bridge

携带式直流电位差计 Portable D.C. potentiometer

晶体管稳压电源 Transistorized voltage stabilizer

恒流可调信号源 Constant current adjustable signal source

超级恒温水浴 Super-grade thermostat with water bath

超级恒温油浴 Super-grade thermostat with oil bath

万用表 Avometer

标准电热偶 Standard thermocouple

标准铂电阻温度计 Standard platinum resistance thermometer

兆欧表 Megameter

直流毫安表 D.C. milliammeter

晶体管参数测试仪 Transistor parameter tester

标准水银温度计 Standard mercury thermometer

台式手绕线机 Bench type hand winding machine

十进位电阻箱 Decad type resistance box

旋转式直流电阻箱 Rotary D.C. resistance box

微调电阻箱 Fine turning resistance box

直流标准电阻 D.C. standard resistance

晶体管毫伏表 Transistorized millivoltmeter

电子交流稳压器 Electronic A.C. voltage stabilizer

超低频信号发生器 Ultra low frequency signal generator

真空表校验表 Calibrator for vacuum gauges

标准压力表 Calibrator for pressure gauges

秒表 Stop watch

电热干燥器强制空气循环 Electric drying oven , force-air circulation

氮气钢瓶 Nitrogen cylinder

手电钻 Hand electric drill

冷藏瓶 Vacuum flask

电吹风 Electric blower

手摇试压泵 Wobble pump for pressure testing

旋片式真空泵 Rotary vane type vacuum pump

标准真空表 Standard vacuum gauge

氧气 压力表 Oxygen pressure gauge

步话机 Walkie-talkie

氧气压力表校验仪 Calibrator for oxygen pressure gauge

气动仪表校验台 Testing stand for pneumatic instruments

示波器 Oscillograph

自耦变压器 Auto-transformer

十一、阀门 Valves

卡套式球阀 Globe valve with sealing bushing

仪表截止阀 Instrument block valve

接表式仪表截止阀 Direct adapting instrument block valve

节流式仪表截止阀 Throttling type instrument block valve

内螺纹截止阀 Internal threaded block valve

气源球阀 Ball valve for air supply

二通阀 Two-way valve

切换阀 Switch-over valve

直形外螺纹截止阀 Straight external threaded block valve

角形外螺纹截止阀 Angle external threaded block valve

压套式仪表截止阀 Instrument block valve with pressed coupling

气动蝶阀 Pneumatic butterfly valve

热动式疏水器 Thermo-operated steam trap

十二、图名 Titles of drawings

仪表盘正面布置图 Instrument panel-board layout

仪表盘盘后布置图 Arrangement on the back of instrument panel-board

仪表盘盘后接线图 Wiring diagram on the back of instrument panel-board

仪表盘盘后接管图 Piping diagram on the back of instrument panel-board

仪表盘盘内接线图 Instrument panel-board inside wiring diagram

电缆,管缆平面敷设图 Plan for running cable & cabled tubings

由一至一管线平面敷设图 Plan of instrument piping & conduit running from — to —

电缆电线外部连接系统图 Scheme of external cable & wire connections

气动管线外部连接系统图 Scheme of external pneumatic piping connections

供电原理图 Scheme of power supply

仪表供气空视图 Isometric view of instrument air supply

半模拟盘上信号灯原理接线图 Wiring scheme of signal lamps mounted on the semi-graphic panel-board

仪表保温伴热图 Instrument tracing & instrument flow diagram

压力引线夹套保温示意图 Heat insulation diagram for jacked pressure impulse pipe

压力，流量引线保温伴热示意图 Heat insulation diagram for pressure & flow impulse pipes with tracing

lines

运转设备信号原理图 Signalization scheme for equipment running

十三、电气设备材料 Electrical apparatus & materials

端子箱 Terminal box

普通型接线端子 Ordinary terminal

开关接线端子 Terminal with switch

熔断器接线端子 Terminal with fuse

标记型接线端子 Marking terminal

可调电阻接线端子 Terminal with adjustable resistance

电气带盖三通 Three-way conduit fitting with cover

电气带盖二通 Two-way conduit fitting with cover

14线插头座 14-wire socket

14-针插头 14-pin plug

14-孔插座 14-hole socket

电流开关 Current switch

装置式自动开关 Cluster automatic switch

油浸式多点切换开关 Oil-immersed multi-point switch

油浸琴键开关 Oil-immersed key switch

气动电开关 Air operated electrical switch

换步开关 Step transfer switch
小型通用继电器 Small ordinary relay
单相插座 Single-phase socket
螺旋式熔断器 Screw-plug
单相母线 Single-phase bus
闪光信号报警器(附电铃及按钮) Flashing annunciator (with alarm and push-button)
无火花冲击式电铃 Non-spark impulse type alarm bell
镍铬-考铜补偿导线 Chromel-copel extension wire
聚氯乙烯绝缘屏蔽软线 PVC insulated shielded soft wire
铜芯橡皮绝缘聚氯乙烯护套电力电缆 PVC sheathed rubber-insulated copper wire power cable
铜芯聚氯乙烯绝缘线 PVC insulated copper wire
铜芯聚氯乙烯绝缘软线 PVC insulated copper soft wire
橡皮绝缘聚氯乙烯护套控制电缆 PVC sheathed rubber insulated control cable
橡皮绝缘低压腊克线 Rubber insulated low voltage lacquer wire
尼龙管缆,单芯高压聚乙烯护套 High pressure polyethylene sheath cable
single-cored nylon tubing
塑料护套塑料绝缘控制电缆 PVC-sheathed and PVC-insulated control cable

十四、自控设备表(表一) List of equipment for process control (1)

序号 Ser. No.

控制点 Tag No. of control point

测量和控制对象 Object to be measured and controlled

介质特性 Characteristics of process fluid

被测介质 Process fluid measured

被调介质 Process fluid manipulated

(设备)型号规格 Instrument type and specification

变送单元 Transmitting unit

调节单元 Controlling unit

显示单元 Displaying unit

辅助单元 Auxiliary unit

测量元件 Measuring element

安装地点 Mounting location

型号及规格 Type and specification

数量 Quantity

调节阀 Control valve

定位器 Positioner

系统安装图号 System mounting drawing No.

备注 Remarks

仪表位号 Instrument tag No.

(用途对象)及安装地点 Service and mounting location

自控材料表 List of material for process control

名称及规格 Description & specification

型号或标准号 Type or standard No.

单位 Unit