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前 言

Preface

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质保期内的设备若出现故障，请联系供应商。

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安 全

Safety

在进行任何维修操作之前，应该先切断电源。

Please shut off the power before any operation.

设备提供者有责任确保使用者了解操作中应注意的事项（其中包括使用说明书中提到的所有注意事项）。

The equipment supplier has the responsibility to guarantee the user to understand the attention items in the course of operation (including all attention items in the instruction booklet).

产品说明书

Instruction Booklet

DEL-17 全密封称重给煤机

DEL-17All closed-end weighing coal feeder

全封闭式称重给煤机是一种带有电子计量称重装置的带式给煤机，主要用于从储煤仓向磨煤机输煤。同时带有速度传感器与断煤、堵煤报警信号和跑偏报警信号装置的功能。

The totally enclosed type weighing and coal feeding machine is a belt coal feeding machine with electronics weighing device. It is mainly used for feed coal from the coal bin to the coal grinding machine. As an automatic product it has been equipped with speed sensor, absent coal alarm device, block coal alarm device and off-tracking alarm device.

1、主要技术参数

Main technical parameter：

皮带宽度： 500mm

Belt width: 500mm

输送量： 5～20t/h

Feeding capacity: 5～20t/h

进出料口中心距：2000mm

Distance between the inlet and outlet:2000mm

皮带驱动电机功率：3.0KW

Power of the belt motor: 3.0KW

清扫电机功率： 1.1KW

Power of the clean motor: 1.1KW

电压：415V

Voltage:415V

给煤机计量精度：±1%

Coal accuracy: ±1%

环境温度： 50℃

Ambient temperature 50℃

湿度: ＜12%

Moisture content ＜12%

2、机器的工作原理和结构

Operation principle and structure of the machine

全封闭式称重给煤机主要由进料口闸门、机壳、给煤皮带装置、清扫链装置、秤重装置、断煤报警信号装置、出口堵煤报警信号装置和跑偏报警信号装置、出料口闸门和电气控制装置等组成。

All closed-end weighing coal feeder composing with feed port of pipeline coal-loading, The chassis ，coal feeder belt conveyor device, cleaning chain device, weighing devices, “coal black out” alarm signal devices, blocking the discharge hatch of coal alarm signal devices and deviation alarm signal devices, discharge port draw-gate, electrical control devices and other components.

进料口闸门起到标定闸门的作用；出料口闸门起到关断的作用。

The feed head draw-gate plays demarcates strobe's role; The discharge port draw-gate plays the shutdown the role

机壳是一整体钢架结构焊接而成，壳体为＞6mm 厚钢板，装有多处观察窗以便于安装、维修及监视机器的运行情况。

The chassis is a steel-framed structure welded together, review of 6 mm thick steel plate, with several windows in order to observe the installation, maintenance and operation of the surveillance machinery.

给煤皮带装置安装在壳体内，它的驱动装置由两台电机和动力座组成，安装在机架头部的一侧，通过机架头部的主动滚筒轴和主动链轮轴相联。皮带张紧装置和从动滚筒安装在机架尾部。调整皮带张紧装置上的调节螺母，即可移动从动滚筒改变从动滚筒和主动滚筒之间的距离，从而调整皮带的张紧力，使胶带与主动滚筒分离处有一合适的预紧力，保证设备的正常运转输送物料。

Coal conveyor belt device installed in the shell, the drive from two blocks

of electrical power, to the rack on one side of the head by the head of the rack and take the initiative to take the initiative to drum shaft linked with the axle. Belt tensioning device and driven roller installed in the rear rack。Adjustment belt tensioning device on the regulation of nuts, you can move the driven pulley driven drum and take the initiative to change the distance between the rollers, thus adjusting the belt tension so that the tape from the drum and take the initiative to have a suitable preload, guarantee the normal operation of transmission equipment materials.

煤从煤仓进入全封闭式称重给煤机是由落料调整装置和进料斗完成的。落料调整装置有一个调节装置，通过调节，从而控制落料的位置。再通过调节进料斗上的标定闸门就可微量调节给料量。

The coal entering into totally enclosed weighing coal feeder from the coal bin is by falling- material adjuster and the feeder hopper. Falling- material adjuster which have an adjusting device, through adjustment, thus may control the position of falling material. May the micro adjustment for estimate again through the adjustment feeder hopper's draw-gate.

清扫装置供清理全封闭式称重给煤机机体内下部从皮带上落下的积煤用。在机器工作时，皮带外侧上粘结的煤通过皮带外清扫器清洁刮板刮落。皮带内侧如粘结有煤粉，则通过内清扫器清扫刮落。同时密封风的存在也会产生煤灰，这些煤灰尘都积存在机体的底部，如不及时清除，会造成堵塞或自燃。

The sweeping device is used for cleaning inside coal fall from the belt. While the machine working, the coal which bonding outer flank of belt through outside sweeper cleaning scraper to sweep. If inside of the belt bonding coal powder, through inside sweeper to sweep. At the same time, presence of seal wind also creating coal powder, those coal powder accumulation on the bottom of the machine, if not been cleared in time, will make blocking and autoignition.

刮板链条由电动机通过减速机带动链轮拖动，带翼的链条将煤灰拖至给煤机出口排

出。链式清扫刮板与给料皮带同时运转，这样可以使机体内积煤量最少。同时，由于这些煤有些是不经称量而被刮出给煤机出口的。连续清理可以减少误差。清扫链连续运转也可以防止链销粘结和生锈。

The scraper chain leads the chain wheel dragging by the electric motor through the speed reducer, the winged chain link tows the soot to the coal feeder export discharges. The chain type scraper cleaner with also revolves for the material leather belt, like this may cause organism inner product coal amount to be least. At the same time, does not blow as a result of these coal some after the weighing the stoker export. The continual cleaning up may reduce the error. Clean the chain continuously can prevent the chain from selling bonding and getting rusty.

电子计量称重装置安装在称重机下方，它由秤重托辊、秤重传感器和编码器等主要部件构成。积算器由电缆线与电子计量秤重装置连接。

The electron measures and weighs device is installed below the feed machine, it is formed by weigh roller, weigh sensor, Encoder etc. Accumulate is joined by cable line with electron weighing device.

当胶带输送机输送物料时，物料的重量通过称重托辊作用于力传感器，产生一个正比于物料载荷的电压信号并送入积算器。同时积算器接受由转速传感器传来的速度信号，通过对重量信号和速度信号的积分运算得出瞬时流量值和累计流量值。

When material transit at belt conveyer, weighing bridge deliver the weigh signal to weighting sensor, and the weighting sensor putout a electric signal which has direct ratio with the load, then the signal was send to the computer for integrator. At the same time speed inspector receive a pulse signal of the belt that has direct ratio with the belt speed, and this signal was also send to the computer for integrator. Then the Computer for Integrator processes the two signals and gives the instantaneous quantity and the total amount quantity.

断煤信号装置安装在皮带上方，当皮带上有煤时，浆状板被推开转动一个角度，这时微动开关触点断开；当皮带上无煤时，浆状板受重力作用趋于恢复平衡位置，使安装在转

动轴上的凸轮触点微动开关触点闭合；闭合后的电信号可以控制皮带驱动电机或起动煤仓振动器，也可以向控制室输出断煤信号，这些由用户根据控制系统要求而定。

No coal signal alarm device is installed above the belt. The slurry auger board will be pushed and rotated an angle if there have coal on the belt, and then The micro-active switch contact separation. if no coal on the belt, the slurry auger board restore to its balance by weight, and then the position switch is switched off. The electric signal can control belts or start the vibration device of coal bunker, required and booked according to the control system by users.

堵煤信号装置安装在给煤机出口处，其结构与皮带断煤信号装置相同。当煤流堵塞至出口料斗上部时，浆状板转动，带动凸轮触动微动开关发出信号，并停止全封闭式给煤机。

The block coal alarm device is installed in the outlet of the coal feeding machine. The structure is the same as the absent alarm device. The slurry auger board will be pushed and rotated an angle and then stop the totally enclosed type weighing and coal feeding machine if the coal flow reach to the upper of the outlet.

3. 机器的验收和安装

Confirmation and installation of the machine

3.1 设备验收

The equipment confirming

设备验收时，应检查是否齐全及包装是否完整。必要时可拆开包装箱，但不应弄破包装袋。检查完毕后按原样包装好。如有疑问应及时提出。

When the equipment is confirmed, should check whether it is complete and the packaging is intact. Could open the packing box if necessity, but should not broke the wrapping bag. After check off, it is good according to the original design packing. Please propose timely if there is doubt.

设备抵达现场后，如果不立即进行安装，则应妥善地进行保管。

After the equipment reaches, if not install immediately, should keep properly.

设备应存放在室内仓库内，如必须放置在室外，则应加盖防水罩，并在箱底加上垫木，并每月检查一次。

The equipment should be store in the warehouse. If it is must be put outdoors,

should cover with waterproof. Add the cushion wood in the bottom of the case, and check once per month.

在保管期间，应定期检查和保养。每次保养时注意只打开需要保养部分的包装，并在保养后按原样装好。

During keeping, should check and maintain regularly. Pay attention to maintain parts then put them well according to the former state after maintaining.

每月一次用手转动皮带驱动电机与清扫链驱动电机各 200 转，以便使各部分运动和润滑，旋转后使给料皮带不处于和原来相同的位置，避免胶带长期处于同一位置而变形。

Rotate the belt driving motor and the scraper driving motor 200 rounds every month with hand in order to make every part move and lubricate. At last should ensure that the feeder belt stop at different place in order to prevent the belt out of shape for a long time in one place.

每三个月润滑所有的轴承一次，每年更换各减速机内润滑油一次，每年用防锈油或齿轮油彻底润滑清扫链节一次。

Lubricate all bearing one time every three months. Change lubrication of Speed reducer one time every year. Lubricate the sweeping chain with anti-rusting oil or the gear wheel oil every year.

当设备需要有一年以上的长期存放时，应注意：

When the equipment must be preserved for more than one year，you should notice：

将各减速机内注满润滑油，并密封所有的通气孔。直至机器安装时，再另行更换润滑油并符合规定的油面高度。

Fill each Speed reducer with lubrication oil and seal all air vents. Change lubrication oil and add the oil to request level before use.

拆下给料皮带，以胶带侧边着地防止在阴凉干燥处，并每隔三个月重新弯曲一次，避免在同一处弯曲而形成弯痕。

Pull down to the belt and put in the cool dry place with the sticky tape side touch the earth. Bend it every three month in order to avoid leaving curved mark.

胶带拆除后，每月一次用手转动各托辊、主动滚筒、从动滚筒、以及清扫链，使各部分运动和润滑。

After pull down the belt, rotate each roller, driving drum, driven drum and sweeping chain one time every month in order to make every part move and liberate.

3.2 设备的安装

Installation of the equipment

准备 600 毫米左右长度的水平尺一把。

Prepare one level bar, length about 600 mm.

将全封闭式称重给煤机放上基础，对准孔位，装上基础螺栓并套上螺母，但不要拧紧。用两根校正杆放在电子皮带秤给煤机两固定托辊两端的辊面上，然后以水平尺确定机器的水平位置。利用在机体下放置垫块来校正，垫块应尽可能靠近基础螺栓孔放置，以避免拧紧下螺栓后全封闭式称重给煤机机体扭曲变形。

Put the foundation in the weighing and coal basic bolt and put the nut in, but don't tighten. To place two fixed supporting roller both sides with two trial bars on the roller surface, then determines machine's horizontal position by the balance level. Calibrate the level by add the cushion ring. The cushion ring should be put close to the basic bolt hole as much as possible, in order to avoid out of shape after tighten the nut.

机器的横向水平通过检查靠近进料口的固定称重托辊来检查。

Check the horizontal level of machine though weighing roller which installed near the inlet port.

全封闭式称重给煤机固定后方可安装全封闭式称重给煤机上部落煤管。安装全封闭式称重给煤机上部落煤管前,煤阀门应处于关闭状态。如果全封闭式称重给煤机已安装，而上部落煤管尚未安装好，则应在全封闭式称重给煤机进口处加以临时性的盖板、盖板应紧固，并能防水防尘。装上断煤报警信号装置与堵煤报警信号装置。

Install the coal-fall-adjustment after fixed the totally enclosed type weighing and coal feeding machine. But remember to close draw-gate in the

coal-fall-adjustment. If you have installed the totally enclose type weighing and coal feeding machine while coal-fall-adjustment not installed, you should cover the inlet of the machine with a cover plate to prevent the water and dust entering into the machine. Install the absent alarm device and the block alarm device.

4 机器的维护和机械部分的调整

Maintenance of the machine and adjustment of the mechanical part

全封闭式称重给煤机定期检查，调整和定度是机器安全、可靠和有效运行的基础，也是全封闭式称重给煤机按工程设计标准进行的保证。

Regularly check, adjust, calibrate is the foundations to make the totally enclosed type weighing and coal feeding machine run safely and reliably.

4.1 维护

Maintenance

在进行任何需进入全封闭式称重给煤机内工作前，必须是选择开关断电，并使主电流断路。

Warning: Must shut off the power before enter the material feeder. And causes the main breaking circuit

每日检查：胶带导向。

Every day check: Direction of the conveyor belt.

每周检查：胶带张力，胶带是否有开裂断层，减速机油位。

Every week check: The tension of the belt. Check whether the belt has fracturing fault. Check oil level of the reducer.

每月检查：完成每月的润滑工作。

Every month inspects: Completes each month's lubrication work.

每三个月检查：减速机换油。

Every three month check: Change the lubrication oil of the reducer.

每半年停机检查：

Shut down and check every half a year.

检查所有转动部分的轴承是否损坏及齿轮是否磨损。

Check all bearings to see if there has damage. Check gear to see if it is worn.

检查全封闭式称重给煤机是否有过量磨损或零部件腐蚀。

Check and see if the machine is worn and torn excessively, if the other part is corroded.

检查称重系统的自由度（拉杆，秤重传感器，托辊等)。

Check the freedom of weighing system (pull rod, weighing sensor, roller etc.).

检查胶带是否有过量磨损现象。

Check if there is excessive worn in the belt.

检查皮带内、外清扫器清洁刮板，使称重传感器保持清洁。

Check the inner scraper board and the outer scraper board to make the weighing sensor keep clean.

清除所有电气接点的锈斑并检查电线终端是否牢固。

Remove the rusty spot of all electric contacts and check whether the terminal of electric wire is firm.

清除全封闭式称重给煤机机体内堆积的煤料。

Remove the piled coal in the machine.

检查进料口前、后挡板和裙板的位置和磨损情况。

Check guard board of front and back of the inlet and the skirt board, check the position, wearing and tearing situation

检查清扫链的张力并使链节保持灵活。

Check the tension of cleaning chain and make the chain keep flexible.

检查密封垫圈的情况，如有失效的密封垫圈应及时更换。

Check the situation of the sealing washer, if there are invalid sealing washers please changed in time.

对全封闭式称重给煤机定度。

Calibrate the coal feeder.

应考虑的附加定期检查：

Additionally regularly check:

新安装的胶带应检查是否有适当的张力，并每班检查皮带导向 2~3 次，直至胶带运转稳定并失去原有初始拉力为止，然后每周检查一次。

Should check the new belt and see if it has proper tension. Check belt lead 2~3 times per shift until the belt runs stably and loses its initial pulling force. Then check the belt once every week.

每当秤重传感器、胶带或秤重托辊更换或维修后，均应重新检查托辊情况每当打开全封闭式称重给煤机机体侧门或前、后端门时，应利用此机会检查清扫链机构。

Check the rollers situations when change or maintain the weighing sensor, belt and weighing roller. Clean the scraper code device at every time when the outside door open of the totally enclosed type weighing and coal machine

除每隔 6 个月的定期定度外，每当更换或调整胶带，秤重托辊或秤重传感器后，也应对全封闭式称重给煤机重新定度。

Besides the regularly calibrate every 6 month, should calibrate the coal feeder when you change and adjust the belt, weighing roller and the weighing sensor.

4.2 润滑工作

Lubrication

全封闭式称重给煤机润滑点（减速机除外），以上润滑点每月加注润滑脂一次。根据现场使用湿度，选择具有耐水性能的钙基、复合钙基和复合铝基润滑脂。注意机器运行湿度和季节变化的关系，选用合适的润滑脂牌号。电动装置减速机用润滑油采用 HL—20 齿轮润滑油，每半年加注一次。机器第一月运行后，应彻底清除全部润滑油并清洗干净后，再注入新油，以后每隔 6 个月或连续运行 2500 小时后重新注油。对使用的润滑油，应按润滑油储存要求存放，避免注入变质的润滑油。

Liberation position of the coal feeder (except reducer), The above lubrication position should be lubricated once every month. Select calcium base lubrication, compound calcium base and compound aluminum base lubrication according to the

humidity. Select the right kind of lubrication according to the season and temperature. The reducer adopts the gear grease HL-20. Add once every half a year. After the first running month, should clear all the old lubrication and change with new. Then change new lubrication every six month or after running 2500 hours continuously. Store the lubrication according to the lubrication store request to avoid using rotten ones.

4.3 全封闭式称重给煤机的调整

Adjustment

4.3.1 皮带张力

Belt tension

当全封闭式称重给煤机运行时，也可以有效地调节皮带张力。需调整皮带张力时，可先打开机壳侧门或后、活动门，转动机架上张紧装置的拉紧螺杆，调整应向两个同方向，等距离旋转，为了不损伤螺纹，一侧螺杆转一圈时，另一侧螺杆最大转圈数为三转。调节时两侧螺杆可交叉转动一直到合适的皮带张力为止。切勿使皮带张力过紧。

Can regulate the belt tension effectively when the machine is running. If need to regulate the tension, first please open the outside door or the back active door, then rotate the tension screw bolt of in the tension device. While doing so, you’d better rotate the tension screw bolt along the same direction and the same distance to avoid damaging the screw. When one side tension screw bolt rotate one cycle, the other side tension screw bolt should rotate no more than 3 cycles. You may adjust the tension screw bolt alternately until the tension is in a suitable condition. Make sure not to make the tension of the belt too tightly.

皮带发生跑偏时，首先观察皮带跑偏的部位，一般情况下皮带在滚筒上跑偏，应调松跑偏一侧张紧装置，或调紧另一侧张紧装置，以减小跑偏一侧皮带的张紧力；皮带在托辊上跑偏，则应在跑偏处把前一、两组托辊一侧向前移动即可。

When belt runs off-tracking, first observe the off-tracking place, if it is

on the drum, reduce the tension of the off-tracking side though the tension screw bolt. If it is in the roller, then move the former two roller of the off-tracking place a little distance forward.

新皮带为了清除初期的内应力，应在张紧状态下运行至少一个小时，然后才能投入正常运行。如果新皮带安装后立即使用，则在一小时内必须注意观察，并每 15 分钟调整一次。

The new belt should run at least one hour under tension in order to remove the internal stress of initial stage, and then could put into normal running. If you use immediately, must pay attention to observing it within an hour, and adjust it every 15 minutes.

4.3.2 进料口导向挡板

Guide baffle of inlet

进料口导向挡板有两侧裙板、前挡板、后挡板。导向挡板与皮带不应接触，应有一定的间隙，一般为 12mm 左右。

The guide baffle of inlet has skirts both sides, front baffle plate and back baffle plate. There should be certain intervals between the guide baffle and the belt, generally about 12mm.

4.3.3 清扫装置

Scraper device

在机器运行时，清扫链翼状刮板只刮少量的煤，如果积煤过多以至引起电动机过载，则必然运行不正常。

When the machine runs, scraper device can clean a small amount of coal, if the coal accumulates too much then will cause the overload of the motor.

清扫链的张力，可通过机体内的张紧机构调整。清扫链条的松边（上边）下垂挠度为 50 毫米时，为适应的张力。由于链条的变形较小，所以在正常运行下需 3~4 年才调整一次。

The tension of the scraper device can be adjust by adjust tension adjustment. It is suitable tension when the upper chain’s loose deflection is about 50 mm.

Because deformation of roller chain is relatively light, so adjust it once in 3~4 years.

4.3.4 断煤报警信号装置

No coal alarm device

① 在浆状板与皮带间放入 60 毫米的垫片，使浆状板沿着煤流方向抬高。

Put 60 mm spacer between the slurry auger board and the belt to make the slurry auger board leave up along the direction of the coal flow.

② 调整报警信号装置内的凸轮位置，使微动开关处于闭合状态。

Adjust the cam position in the signal installation to make the limit location in closing position.

③ 拧紧凸轮紧固螺钉，确保凸轮处于调整位置。

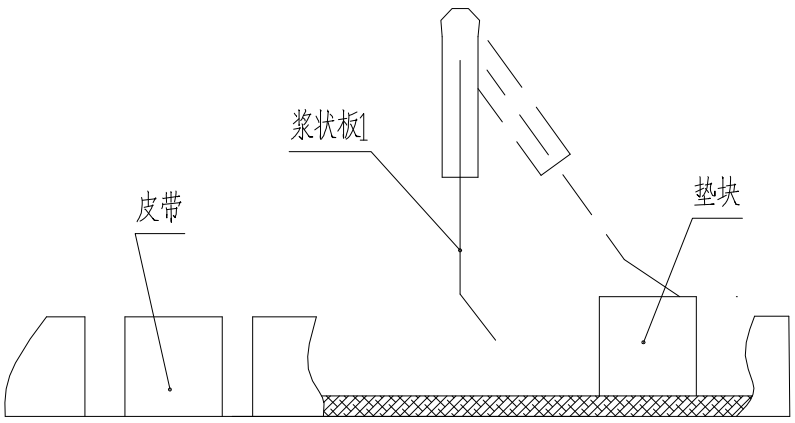
Tighten the cam fasten screw to make the cam is in adjusting the position.

④ 去除皮带上调整用的垫片。

Remove the spacer.

断煤报警信号装置的调整见附图 2：

No coal alarm device’ adjustment. See figures 2:



4.3.5 堵煤报警信号装置

Block coal alarm device

① 首先使浆状板顺时针方向转动 20°。

Make the slurry auger board rotate 20° along clockwise.

② 调整报警信号装置内的凸轮位置，使微动开关正好处于闭合状态。

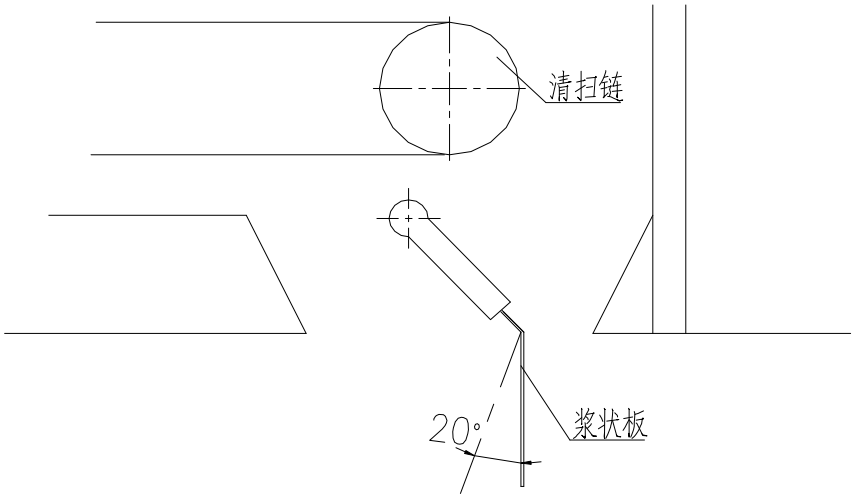
Adjust the cam position in the signal installation to make the limit location in closing position.

拧紧凸轮紧固螺钉，确保凸轮处于调整位置。

Tighten the cam fasten screw to make the cam is in the adjusting position.

堵煤报警信号装置调整见附图 3：

Blocking coal alarm installment adjustment to see the attached figure 3:



5、电气部分操作说明

ELECTRICAL OPERATION EXPLANATION

5.1 工作原理

Principal of work

DEL-17 系列称重式计量给煤机在工作中时，煤从储煤仓通过进煤口煤闸门进入给煤机，由计量输送胶带送到给煤机出煤口，经过出煤口煤闸门进入下级设备。在计量输送胶带的下面装有尺寸控制精确的称重托辊，构成称重计量跨距，在称重计量跨距中间安装有一个与一对高精度的防粉尘、防爆称重传感器相连接的计量托辊。当被输送的煤通过该称重计量跨距时，称重传感器便产生一个与胶带上的煤重量成正比的电信号，同时在主驱动

电机轴端装有速度检测器，将胶带的速度以脉冲信号的形式送给 ET 系列电脑积算调节器。煤的重量信号经放大及 A/D 变换后，以数字形式送给 ET 系列电脑积算调节器，这两个信号经过积算调节器处理后，即可显示出称重计量给煤机瞬间给煤量和累计给煤量，其公式如下：

When the totally enclosed type weighing and coal feeding machine working, the coal stored in the storage bunker enters into the electronic belt scale coal-feeding machine through the coal inlet gate, and transported to the coal outlet through the measurement and conveyer belt, then enters into next equipment. Under the measurement and conveyer belt equipped with high precise dimension weighing roller, which composes the weighing and measurement span. And in the middle part of the weighing and measurement span equipped with a measurement roller who connected with a pair of high accuracy, explosion-proof, dust-proof heavy sensor. When the transported coal through this measurement span the heavy sensor produce a electrical signal which has the direct ratio with the coal weight on the conveyer belt, at the same time the speed sensor that installed at the end of the host driver electronic motor's axial send the speed signal in pulse mode to the SY series computer for integration. Coal weight signal be sent to the ET series computer for integration in digital form after been enlarge and A/D transformed. The computer for integration deals with these two signals and then displays the instantaneous coal amount and accumulates amount, its formula as follows:

$$W=\int W(t)dt=\int q(t)V(t)dt$$

式中 W——累计给煤量 t

W(t)——瞬时给煤量 t/h

q(t)——瞬时单位长度胶带上煤的重量 t/h

V(t)——瞬时胶带输送速度 m/s

In the formula:

W - accumulation coal feeding amount (t)

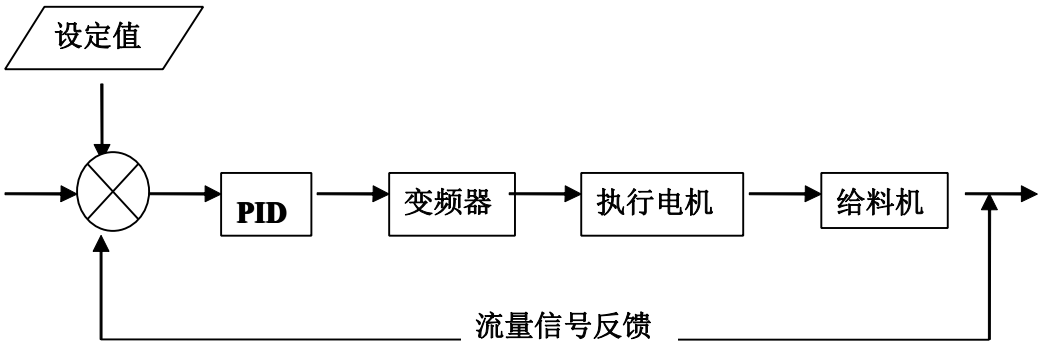
W (t) - instantaneous coal feeding amount (t/H)

Q (t) - instantaneous unit length coal weight (t/H)

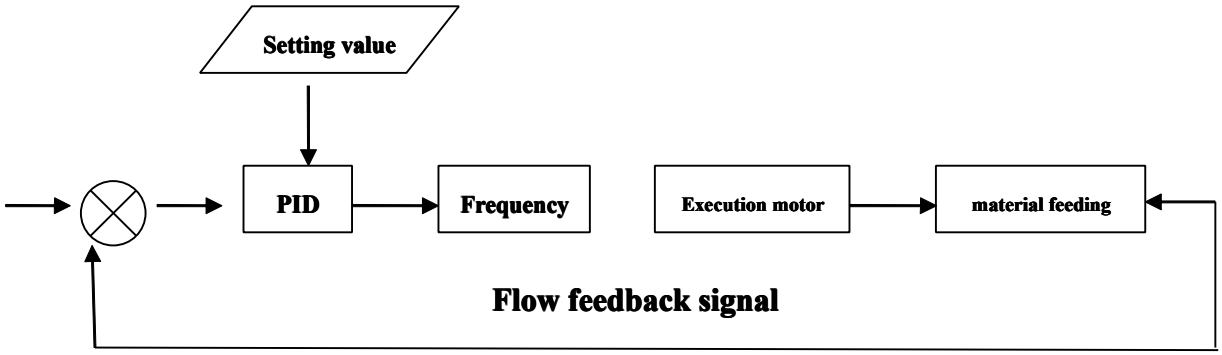
V (t) - instantaneous conveyer belt transfer rate (m/S)

ET 系列电脑积算调节器在计算出给煤量的同时，将此给煤信号与预先设定的给煤量信号或来自锅炉燃烧控制系统要求的给煤量信号相比教。根据比较后的结果，用主变频器改变主电机的转速，使实际给煤量与要求的给煤量相同，以满足锅炉燃烧系统的需要。

At the same time the ET series computer for integration computes the coal amount, compares this feeding signal with the setting value or the coal feeding signal comes form the boiler burning control system. And the host frequency changer changes the host electrical motor's rotational speed according to the compared result to cause the actual coal amount to be same with the request coal amount, and then to satisfy the boiler combustion system need.



工作原理示意图



Principle of work schematic drawing

DEL-17 型给煤机电器柜采用密封防尘前后双开门结构，它主要用来操作和控制给煤机，接受集中控制室总控制系统的控制信号，自动调节给煤量.控制柜还完成给煤机系统的各种保护、报警及状态信号的反馈。

The electrical cabinets for JGC-30 totally enclosed type weighing and coal feeding machine adopts coal dust sealed front and rear double door structure. it is mainly used to operate and control the coal feeder, to accept the total control system of centralized control room control signal, automatically adjust to the amount of coal. Control cabinet also completed coal feeder system, a variety of protection, alarm and status signals of the feedback.

5.2 控制柜的主要技术数据

Main technical parameter of the control cabinet

电源电压：415VAC （三相四线制）

Power electric pressure: 415VAC (three-phase voltage)

给煤机启动信号：触点始终闭合

Signal of coal feeder machine start: The electronic contact closes throughout

给煤机停止信号：触点始终断开

Signal of coal feeder machine stop: The electronic contact separates throughout

出口闸门开信号：触点始终闭合

Outlet the draw-gate to open the signal: The electronic contact closes throughout

出口闸门开停止信号：触点始终断开

Outlet the draw-gate to open the stop signal: The electronic contact separates throughout

出口闸门关信号：触点始终闭合

Outlet the draw-gate to close the signal: The electronic contact closes throughout

出口闸门关停止信号：触点始终断开

Outlet the draw-gate to close down stops the signal: The electronic contact separates throughout

给煤量设定值信号：4----20mADC

Signal of set value for coal feeding amount : 4～20mADC

瞬时给煤量输出信号：4----20mADC

Output signal of instantaneous coal feeding amount: 4～20mADC

胶带电机启停状态信号： （250VAC/3A）

Belt motor start-stop status signal: (250VAC/3A)

清扫电机启停状态信号： （250VAC/3A）

Sweeping motor start-stop status signal: (250VAC/3A)

给煤机远程\就地信号： （250VAC/3A）

Remote / On site signal： （250VAC/3A）

胶带断煤报警信号： （250VAC/3A）

Tape no coal alarm signal： (250VAC/3A)

给煤机出口堵煤报警信号： （250VAC/3A）

Outlet blocking coal alarm signal： (250VAC/3A)

胶带跑偏报警信号： （250VAC/3A）

Tape deviation alarm signal： (250VAC/3A)

给煤机变频器报警信号： （250VAC/3A）

Coal feeder inverter alarm signal： (250VAC/3A)

出口闸门远程\就地信号： （250VAC/3A）

Remote / On site signal for Outlet the draw-gate: （250VAC/3A）

出口闸门全开反馈信号： （250VAC/3A）

Outlet the draw-gate to entire open the feedback signal: （250VAC/3A）

出口闸门全关反馈信号： （250VAC/3A）

Outlet the draw-gate entire close feedback signal: （250VAC/3A）

5.3 控制操作

Control operation

操作控制部分主要由按钮开关、转换开关、变频器、继电器、接触器、指示灯等构成，主要完成对胶带电机、清扫链电机的启停和远/近控转换等操作。

Operational control of some of the major by the button switch, switch, frequency converter, relays, contactors, lights, etc., mainly to complete the electrical tape, cleaning chain motors, and the far / near-control operation conversion.

两种控制方式（就地/远程）由用户自行无扰切换。

Two kinds of control mode (local / remote) from the user to switch on its own without interference.

给煤机就地控制时，操作人员直接操作现场操作箱上的启停按钮进行启停，操作现场操作箱上的可调电位器（调节变频器）进行速度调节。

Local control, the operator at the scene to operate directly on the box to start and stop buttons start and stop operation on-site box adjustable potentiometer for speed adjustment.

给煤机远程控制时，将给煤机转换开关置于“远程”，由上位机系统（DCS）对给煤机设备进行启停控制及调速控制（上位系统将 4-20mA 信号给称重仪表，称重仪表将 PID 调节输出信号给变频器）。远程控制时，清扫电机和皮带电机是同时启停；给煤机出现堵煤或变频器报警时，给煤机自动停止。

Remote control will switch on a "remote" from the host computer system (DCS) for the equipment start and stop control and speed control. (DCS will offer the 4-20mA signal to weighing the measuring appliance, weighing the measuring appliance will give the PID adjustment output signal to the frequency changer) cleaning electric motor and a belt at the same time start and stop. when appearing to block coal or Frequency controller alarm, the coal feeder can automatically stop.

闸门就地控制时，操作人员直接操作现场操作箱上的启动按钮进行启停（点动或按住)；远程控制时，将闸门转换开关置于“远程”，由上位机系统（DCS）对闸门进行启停控制。现场操作箱上设有闸门全开、全关指示。

To draw-gate on site controls, the operators directly operates on site control box's start button to carry on start-stops (spot to move or to hold down); When remote control, puts on the draw-gate change-over switch “long-distance”, then DCS carries on draw-gate start-stop control. The on site control box is equipped with open or close entire instruction in the draw-gate.

5.4 运行指示和故障报警

Operation instructions and failure alarm

给煤机和清扫链启动时，控制柜上设有启停指示灯；

Coal feeder and cleaning chain starts, the control cabinet with start and stop lights;

整套设备配有堵煤报警（出口处堵煤检测)、断煤报警（进料口处检测)，跑偏报警（给料皮带跑偏检测)、变频器故障报警（变频器内部报警输出)，在控制柜上设有报警指示灯。

Equipment package with a blocking coal alarm (coal feeder exit test), Absent coal alarm (Inlet was detected), deviation alarm (feed belt deviation detection), frequency controller Fault Alarm (inverter internal alarm output), controlling cabinet with alarm indicator light;

给煤机堵煤报警和变频器报警时，自动停机；其他报警只提示不停机，请注意!!!

Coal feeder block coal alarm, inverter alarm, automatic shut down; other alarm prompts non-stop, please note! ! !

给煤机的详细控制和操作方法，请仔细阅读电气控制原理图、仪表说明书和变频器说明书。

Coal feeder detailed controls and operating methods, please carefully read the electrical control Principal, instrument manuals and inverter specifications.

当设备系统出现故障或检修、更换设备时，要切断控制柜电源，以防触电!

When equipment failure or system maintenance and replacement of equipment, the control cabinet to cut off power to against electric shock!