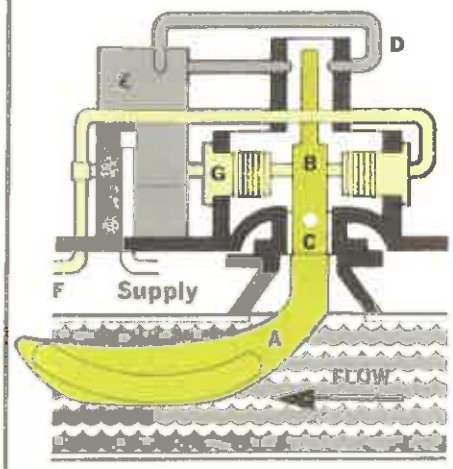
Operation



Simple operation assures reliable control. Consistency is determined by sensing stock fiber drag on a sensing blade (A) in the pipeline. A torque arm (B) connected to the sensor extends into a pneumatic torque transducer in the transmitter. As consistency changes, the sensor and torque arm pivot on a flexure (C). Torque arm movement is sensed by a pneumatic bridge circuit (D) and converted by a booster pilot (E) to a 3 to 15 psi pneumatic signal (F) which varies in direct proportion to consistency changes. Transmitter output operates a controller-recorder to record consistency and control dilution water input ahead of the transmitter. A force-balance feedback system (G) maintains sensor position to allow instantaneous and continuous sensing of fiber drag on the sensor.

Design and Construction

1 Proven Sensing Circuit

The pneumatic torque transducer and force-balance feedback system have been proven in thousands of DeZURIK Consistency Transmitters installed throughout the world.

2 Sensor Design

The rib on the sensor compensates for velocity effects. Frictional resistance of flow on the rib creates an opposite force equal to the force on the leading edge of the sensor. Stainless steel construction of the sensor and torque arm assure maximum corrosion resistance and strength. Protective vanes are not required upstream of the sensor. Streamlined sensor shape prevents fouling.

3 Rugged Construction

Heavy duty construction throughout assures long unit life. Transmitter body parts are cast aluminum, mounting neck is stainless steel. Sensing components are made to withstand even severe shock from foreign material in the pipeline.

4 Heavy Duty Static Seal

A static seal at the base of the transmitter seals line pressure to 125 psi. Metal backed resilient static seal and alloy flexure resist damage from stock slugs.

5 Simple Installation

The unit can be mounted in any position around a horizontal, vertical or sloping pipeline. A template is provided to show proper hole size and placement on the pipeline. Welding guides are furnished bolted to the mounting neck to assure positive alignment with the pipeline.

6 Zero Adjustment

Dual zero adjustment provides fast and accurate zero suppression. Two easily accessible knobs allow adjustment without tools.

7 Span (Sensitivity) Adjustment

Easily accessible. Provides a 40 to 1 span adjustment ratio.

8 Sealed Cover

Durable cover is sealed to protect components from dirt, water and corrosive atmospheres.

9 Output Signal

3 to 15 psi signal is directly proportional to consistency.

10 Supply Air

Requires 20 psi clean, dry air regulated within ± 3 psi.

Accurate Sensing

Capable of sensing consistency within ±.02% on many applications. Accuracy of regulation is dependent upon the rest of the system. Output is repeatable within ± 0.5% of chart.

Wide Operating Range

Accurate consistency sensing is maintained on stock as thin as 1.75% or as thick as 6.0% and at velocities from .75 to 5.0 feet per second. The unit can be used in all pipe sizes 6" and larger (4" on application).

Maintenance-Free

Simple, heavy duty construction makes this unit virtually maintenance-free. Periodic recalibration isn't required, even under severe operating conditions.

Compact Size

Small size allows mounting where pipeline clearance is limited. Total unit weight of only 19 pounds makes installation easy.

Low Cost

Low initial cost plus maintenance-free long life makes this the most economical consistency transmitter for your control system. Rugged construction prevents damage and resultant repair costs.

Accessories

Controller-Recorders

Available in circular chart, strip chart or double dilution circular chart models. Standard input and output is 3 to 15 psi.

Dilution Valves

DeZURIK Eccentric Valves with pneumatic positioning actuators accept controller output. Actuator requires 36 psi cylinder supply (pressure reducing valve furnished).

To order specify the following:

Size Code	**0100** = 1" **0150** = 1½" **0200** = 2" **0250** = 2½" **0300** = 3"
Figure Number	**FIG130** = Stainless Steel, Resilient Faced Plug **FIG131** = Stainless Steel, All Metal Plug
End Style	**S** = Screwed **F** = Flanged
Packing	**1** = Buna-Filled U-Ring Seal
Plug Facing	**RS26** = Hycar (Specify with FIG 130 only)
Actuator	**ACGP5** = For 1"-2" Valves **ACGP7** = For 2½", 3" Valves
Positioner	**P1** = 3 to 15 psi Signal Range
Positioner Action	**Air-to-Open** (Specify below valve identification)
Ordering Example	**0200,FIG130,F,1,RS26,ACGP5,P1. Air-to-Open.**

Specifications

Figure Number—710 BC

Output—3-15 psi pneumatic

Consistency Range—1.75% to 6.00%

Sensitivity
Capable of sensing consistency within ± .02% on many applications. Accuracy of regulation is dependent upon the rest of the system.

Span (Sensitivity) Adjustment
40 to 1 span adjustment ratio

Repeatability
± 0.5% of chart

Velocity Range
.75 to 5.0 feet per second

PIPE SIZE	MINIMUM GPM	MAXIMUM GPM
4"	30	195
6"	66	440
8"	117	780
10"	180	1210
12"	268	1790
14"	357	2380
16"	472	3150
18"	610	3950
20"	720	4800
24"	1050	7000
30"	1665	11100

Air Supply
20 psi regulated, ± 3 psi

Air Consumption
1.0 to 1.5 SCFM

Maximum Line Pressure
125 psi Non-Shock

Weight
19 pounds

Vibration
Unaffected by normal mill vibration

Line Size
6" and larger (4" on application)

Mounting Position
Any position around horizontal, vertical or sloping pipe.

Mounting
Mounting neck included for welding over 2½" by 5⅝" hole cut in pipe. (Welding guides furnished bolted to the mounting neck.)

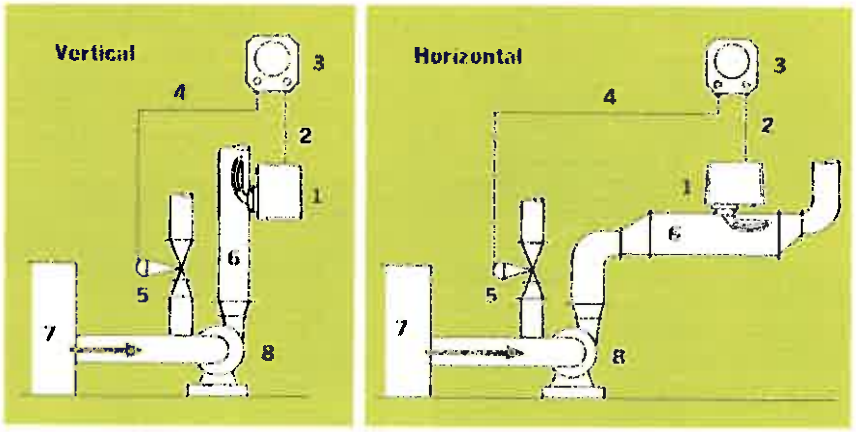
Materials
Sensor—316 Stainless Steel
Mounting Neck—316 Stainless Steel
Torque Arm—Solid 1" Bar of 316 Stainless Steel
Body—Cast aluminum
Cover—Molded, thermal-set phenolic. Sealed, dust and moisture proof.

Ordering

Orders should include: 1—Quantity 2—Figure Number (710 BC) 3—Stock Consistency Range (Minimum, Normal, Maximum) 4—Minimum and Maximum flow rate 5—Pipeline size 6—Stock temperature 7—Sketch of installation showing dimensions 8—Controller-Recorder required (circular chart, strip chart, double dilution). The following dilution valve requirements should also be given: 1—Required consistency reduction 2—Available dilution water pressure drop 3—Water temperature 4—Specifications as shown in accessory section.

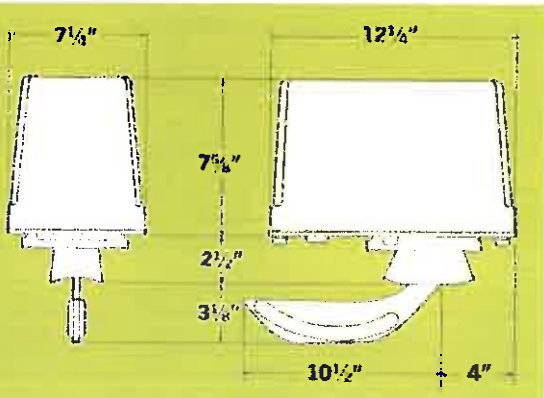
Typical Installation

1. Transmitter 2. Transmitter Output 3. Controller-Recorder 4. Controller Output 5. DeZURIK Dilution Valve 6. Stilling Pipe 7. Stock Chest 8. Pump



Dimensions

Dimensions are subject to change without notice. For piping layouts, request certified drawings. From top of pipe, 17" is required for transmitter removal, 14" is required for cover removal.



Sales and Service

A qualified representative in your area can provide additional information on DeZURIK Consistency Transmitters. Ask him for details on the complete DeZURIK line. Blade sensor, rotating sensor, pan type and open type consistency transmitters. Basis weight and V-Port stock control valves. Manual and automatic eccentric valves. Butterfly valves. Round port and vee orifice knife gate valves. 3-way and 4-way valves.

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