

“O‘zbekneftgaz” AJ  
 “Shurtan gaz kimyo majmuasi” MCHJ  
 MTRB xizmati  
**RO‘YXATGA OLINDI**  
 074/007-3410  
 2023 yil “11” O‘S.

«УТВЕРЖДАЮ»  
 Главный метролог  
 ООО «Шуртанского ГХК»  
 Х.А. Махмудов  
 «10» 08 2023 г.

TEXNIK TOPSHIRIQ “ShGKM” MChJ ehtiyojlari uchun Sarf bo‘yicha ajratkichlar xarid qilish.		ТЕХНИЧЕСКОЕ ЗАДАНИЕ на закупку Переключателей расхода для нужд ООО «Шуртанский ГХК»		TECHNICAL ASSIGNMENT for the purchase of flow switches for the needs of LLC “SGCC”	
<b>1. UMUMIY MA'LUMOTLAR</b>		<b>1. ОБЩИЕ СВЕДЕНИЯ</b>		<b>1. GENERAL INFORMATION</b>	
<b>1.1 Nomlanishi</b> Sarf bo‘yicha ajratkich		<b>1.1 Наименование</b> Переключатели по расходу.		<b>1.1 Name</b> Flow switch.	
<b>1.2 Xarid qiliash uchun asos</b>		<b>1.2 Основание приобретения товара</b>		<b>1.2 Basis of goods purchasing.</b>	
Asos: 06.09.2022 y. 007/17617 raqamli xizmat xati va NO'A va A sexining 2024 yil uchun yillik buyurtmasi		Основание: Служебное письмо № 007/17617 от 06.09.2022г. и годовая заявка цеха КИП и А на 2024г.		Basis: Official Letter No. 007/17617 dated 06.09.2022 and the annual application of the Instrumentation workshop for 2024.	
<b>1.3 Yangiligi to'g'risidagi ma'lumot (ishlab chiqarilgan yili)</b>		<b>1.3 Сведения о новизне (год производства товара)</b>		<b>1.3 Information about novelty (year of production of goods)</b>	
Yetkazib beriladigan mahsulotlar etkazib berish yilida yoki undan oldingi yilda ishlab chiqarilishi va yangi, ilgari ishlatilmagan bo'lishi kerak.		Поставляемая продукция должна быть произведена в год поставки или в предшествующий ему год и должна быть новой, ранее не использованной.		The supplied products must be manufactured in the year of delivery or the year preceding it and must be new, not previously used.	
<b>2. QO'LLANISH SOHASI</b>		<b>2. ОБЛАСТЬ ПРИМЕНЕНИЯ</b>		<b>2. SCOPE OF USE</b>	
Sarf bo‘yicha ajratkich universal asbob hisoblanadi. Qo'llash sohalari, kompressorlar, nasoslar va texnologik qurilmalar liniyalarini nazorat qilish, rostlash va signalizatsiya qilishdir. Sarf ajratkichi, shuningdek, ba'zi hollarda - sarfni rostlagich sifatida ishlatilishi mumkin.		Переключатели расхода имеют универсальное применение. Области применения являются, например, контроль, регулирование и сигнализация расхода в технологических линиях и установках, а также в компрессорах и насосах. Переключатели расхода также могут использоваться - в некоторых случаях - в качестве регулятора расхода.		Flow switches have a universal application. Areas of application are, for example, the control, regulation and signaling of flow rates in process lines and plants, as well as in compressors and pumps. Flow switches can also be used - in some cases - as a flow regulator.	
<b>3. QO'LLANILADIGAN ATROF MUHID</b>		<b>3. УСЛОВИЯ ЭКСПЛУАТАЦИИ</b>		<b>3. OPERATING CONDITIONS</b>	
- havoning nisbiy namligi 95% dan oshmasligi kerak; - atmosfera bosimi 96 dan 106,7 kPa gacha; - atrof-muhit harorati -27 dan +65 ° C gacha		- относительная влажность воздуха не более 95 %; - атмосферное давление от 96 до 106,7 кПа; - температура окружающей среды от -27 до +65°С		- relative air humidity: not more than 95 %; - atmospheric pressure: from 96 to 106.7 kPa; - ambient temperature: from -27 to +65°С	
<b>4. TEXNIK TALABLAR</b>		<b>4. ТЕХНИЧЕСКИЕ ТРЕБОВАНИЯ</b>		<b>4. TECHNICAL REQUIREMENTS</b>	
<b>4.1 Asosiy texnik talablar</b>		<b>4.1 Основные технические требования</b>		<b>4.1 Basic technical requirements</b>	
<b>Mahsulot nomi</b>	<b>Uskunaning qisqacha tasnifi va to'liq to'plami</b>	<b>Название продукта</b>	<b>Краткая характеристика и комплектация оборудования</b>	<b>Name of product</b>	<b>Brief description and complete set of equipment</b>

<p>Sarf bo'yicha ajratkich "Dweyer"</p>	<p>Elektr kontakti: oniy ajratkich                  Quvvat: 220VAC 50Hz 5A                  Elektr aloqasi: EN175301-803 (DIN 43650) ga muvofiq sim ulagichi                  Chiqish tugmasi: ko'tarilgan sarfda ochiq                  Material: Latun                  Harorat chegaralari: -4 dan 220°F gacha (-20 dan 105°C gacha) Standart,                  Atrof-muhit harorati -4 dan 167°F gacha (-20 dan 75°C gacha)                  Jarayon harorati: -4 dan 220°F gacha (-20 dan 105°C gacha).                  Bosim chegarasi:                  Korpusning pastki qismi latundan va modelsiz uchoy'lli bilan. 1000 psig (69 bar)                  Kommutator turi: SPDT standart oniy ajratkich                  Korpusning yuqori qismi: Latun                  Jarayon ulanishi: 1/2" (12,70 mm) NPT</p>	<p>Переключатели по расходу "Dweyer"</p>	<p>Электрическое контактное устройство: мгновенный выключатель                  Мощность: 220 В переменного тока, 50 Гц, 5 А                  Электрическое соединение: кабельный разъем в соответствии с EN175301-803 (DIN 43650)                  Выходной переключатель: открыт при повышенном потреблении                  Материал: латунь                  Температурные ограничения: от -4 до 220°F (от -20 до 105°C) Стандартный,                  Температура окружающей среды от -4 до 167°F (от -20 до 75°C)                  Температура процесса: от -4 до 220°F (от -20 до 105°C).                  Предел давления: Нижний корпус из латуни без моделей с тройником 1000 фунтов на кв. дюйм (69 бар) Тип переключателя: Стандарт мгновенного переключения SPDT                  Верхняя часть корпуса: латунь                  Технологическое соединение: 1/2" (12,70 мм) NPT</p>	<p>Flow switch "Dweyer"</p>	<p>Electrical contact: Momentary switch                  Power: 220 V AC, 50 Hz, 5 A                  Electrical connection: cable connector according to EN175301-803 (DIN 43650)                  Output switch: open at high demand                  Material: brass                  Temperature limits: -4 to 220°F (-20 to 105°C) Standard,                  Ambient temperature -4 to 167°F (-20 to 75°C)                  Process temperature: -4 to 220°F (-20 to 105°C).                  Pressure limit:                  Brass lower body no models with 1000 psi per inch (69 bar)                  Switch type:                  Instant Switch Standard SPDT                  Upper body: brass                  Process connection: 1/2" (12.70 mm) NPT</p>
<p>Sarf bo'yicha ajratkich universal sarf monitorlari</p>	<p>Suyuqlikning qo'shimcha maksimal harorati: 300 - 400 ° F (150 &amp; 205 ° C) (HT varianti)                  Maks. atrof-muhit harorati: 150 ° F (65 ° C)                  SERIES LN maks. ish bosimi 300 PSI (20,69 bar)                  Transmitter protokollari 4-20 mA DC analog, DC. Raqamli impuls o'zgarimas tok, HART va Profinetni.</p>	<p>Переключатели по расходу универсальные расходомеры</p>	<p>Дополнительный макс. температура жидкости: 300 и 400°F (150 и 205°C) (вариант HT)                  Макс. температура окружающей среды: 150°F (65°C)                  СЕРИЯ LN макс. рабочее давление: 300 фунтов на квадратный дюйм (20,69 бар)                  Протоколы преобразователя включают аналоговый сигнал постоянного тока 4–20 мА, цифровой импульс постоянного тока, HART и Profinet.</p>	<p>Flow switch universal flow monitors</p>	<p>Optional max. fluid temperature: 300 &amp; 400°F (150 &amp; 205°C) (HT option)                  Max. ambient temperature: 150°F (65°C)                  SERIES LN max. working pressure: 300 PSI (20.69 BAR)                  Transmitter protocols include 4-20 mA DC analog, DC digital pulse, HART, and Profinet</p>

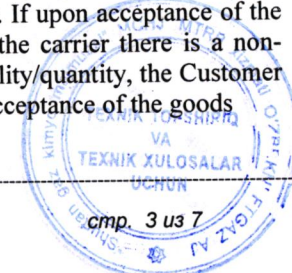
4.2 Atrof-muhit omillari ta'sirida ishonchlilik va parametrlarga qo'yiladigan talablar

4.2 Требования по надежности и параметрам при воздействии факторов внешней среды

4.2 Requirements for reliability and parameters under the influence of environmental factors



<p>4.1-bandda ko'rsatilgan ajratkichning texnik tasnifi atrof-muhit sharoitida ishlaganda o'zgarimchiligi kerak: harorat -27 dan +65 °C gacha, namlik 10% dan 95% gacha.</p>	<p>Технические характеристики переключателя, указанные в п.4.1 не должны изменяться, при работе в условиях окружающей среды: температура от -27 до +75 °C, влажность от 10% до 95%</p>	<p>The technical characteristics of the switch, specified in clause 4.1, should not change when operating in ambient conditions: temperature from -27 to +75 °C, humidity from 10% to 95%</p>
<p><b>5. YETKAZIB BERISH VA QABUL QILISH QOIDALARIGA QO'YILGAN TALABLAR</b></p>	<p><b>5. ТРЕБОВАНИЯ ПО ПРАВИЛАМ СДАЧИ И ПРИЕМКИ</b></p>	<p><b>5. REQUIREMENTS AS PER DELIVERY AND ACCEPTANCE RULES</b></p>
<p><b>5.1 Yetkazib berish va qabul qilish tartibi</b></p>	<p><b>5.1 Порядок сдачи и приемки</b></p>	<p><b>5.1 Delivery and Acceptance Procedure.</b></p>
<p>Tovarlar kiruvchi nazoratdan o'tkazilgandan keyin va shartnomaga muvofiq dalolatnoma tuzilgandan keyin qabul qilinishi kerak. Buyurtmachi tovarni miqdori, sifati va partiyaning to'liqligi, shuningdek tovar xavfsizligining tashqi belgilari (mexanik shikastlanishlar, tovarning alohida birliklari va qismlarining ko'rinadigan deformatsiyasi va shunga o'xshash shikastlanishning boshqa aniq belgilari) bo'yicha hamda transport va qo'shimcha hujjatlarga, ishlab chiqaruvchining sifat sertifikatlariga muvofiq qabul qiladi. Shu bilan, tomonlar xaridorning vakili tomonidan amalga oshirilgan tovarlarni vizual tekshirish, uni tashish paytida tovarlarning miqdori, to'liqligi va tashqi belgilari bo'yicha muvofiqligini aniqlash uchun mutlaq va yakuniy bo'lishi kerakligiga rozi bo'ladi. Mahsulotlar o'rnatish, ishga tushirish va ishlatish uchun hujjatlar bilan birga e'lon qilingan xususiyatlarni tasdiqlovchi muvofiqlik sertifikatlari va sertifikatlash sinovlari hisobotlariga ega bo'lishi kerak. Barcha qo'shimcha hujjatlar rus va ingliz tillarida tuzilib, etkazib berilgan mahsulotlar bilan birga Buyurtmachiga topshirilishi kerak. Belgilash rus va ingliz tillarida bo'lishi va aniq belgilarga ega bo'lishi kerak. Ishlab chiqaruvchi, partiya raqami va ishlab chiqarilgan sanasi ham ko'rsatilgan bo'lishi kerak. Belgilash etkazib beriladigan tovarlarning butun xizmat muddati davomida saqlanishi kerak. Buyurtmachi (oluvchi) yukni tashuvchidan qabul qilgandan so'ng, tovarlarning shartnomada, texnik shartlarda yoki unga qo'shimcha kelishuvlarda, shuningdek transportda, qo'shimcha hujjatlarda, ishlab chiqaruvchining sifat sertifikatlarida ko'rsatilgan ma'lumotlarga muvofiqligini tekshirishi shart. Agar tovar tashuvchidan olinganidan keyin qabul qilinganda sifati/miqdori bo'yicha tovarlarning nomuvofiqligi aniqlansa, Buyurtmachi (oluvchi) tovarni qabul qilishni to'xtatib turadi.</p>	<p>Товар должен приниматься после входного контроля и составления акта в соответствии с договором. Заказчик производит приемку товара по количеству, качеству и комплектности партии, и внешним признакам сохранности товара (наличие механических повреждений, видимая деформация отдельных узлов и деталей товара и иные подобные явные признаки повреждений) в соответствии с транспортными и сопроводительными документами, сертификатами качества завода-изготовителя. Настоящим, стороны договариваются, что визуальный осмотр товара, произведенный представителем Заказчика, должен быть абсолютным и окончательным для сторон для определения соответствия по количеству, комплектности и внешним признакам сохранности товара при его транспортировке. Продукция должна иметь сертификаты соответствия и протоколы сертификационных испытаний, подтверждающие заявленные характеристики, сопровождаться документацией по монтажу, наладке и эксплуатации. Вся сопроводительная документация должна быть составлена на русском и английском языках и передана Заказчику вместе с поставляемой продукцией. Маркировка должна выполняться на русском и английском языках, и иметь четкие обозначения. Также указывается изготовитель, номер партии и дата изготовления. Маркировка должна сохраняться на весь срок службы поставляемого оборудования. При приемке товара от перевозчика, Заказчик (грузополучатель) обязан проверить соответствие товара сведениям, указанным в договоре, спецификациях или дополнительных соглашениях к нему, а также в транспортных, сопроводительных документах, сертификатах качества завода-изготовителя. В случае, если при приемке товара после его получения от перевозчика будет выявлено несоответствие товара по качеству/количеству, Заказчик (грузополучатель) обязан приостановить приемку.</p>	<p>The goods shall be accepted after incoming control and drawing up an act in accordance with the contract. The Customer accepts the goods according to the quantity, quality and completeness of the batch, and external signs of preservation of the goods (presence of mechanical damages, visible deformation of individual units and parts of the goods and other similar obvious signs of damage) in accordance with transport and accompanying documents, quality certificates of the manufacturer. Hereby, the parties agree that the visual inspection of the goods performed by the representative of the Customer shall be absolute and final for the parties to determine compliance by quantity, completeness and external signs of preservation of the goods during its transportation. The products shall have certificates of conformity and certification test reports confirming the declared characteristics, accompanied with installation, adjustment and operation documentation. All accompanying documentation shall be in Russian and English and shall be provided to the Customer together with the products supplied. The manufacturer, batch number and date of manufacture are also indicated. Marking shall be maintained for the entire service life of the supplied goods. Upon acceptance of the goods from the carrier, the Customer (consignee) shall check the conformity of the goods with the information specified in the contract, specifications or additional agreements to it, as well as in transport, accompanying documents, quality certificates of the manufacturer. If upon acceptance of the goods after their receipt from the carrier there is a non-conformity of the goods by quality/quantity, the Customer (consignee) shall suspend the acceptance of the goods</p>



<p><b>5.2 Texnik va boshqa hujjatlarni buyurtmachiga topshirishga qo'yiladigan talablar.</b></p>	<p><b>5.2 Требования по передаче заказчику технических и иных документов.</b></p>	<p><b>5.2 Requirements for handing-over the technical and other documents to the customer.</b></p>	
<p>Xaridorga tovar bilan birga barcha qo'shimcha, texnik hujjatlar, sifat sertifikatlari, shuningdek xavfsizlik bo'yicha ko'rsatmalar yuboriladi. Metall payvandlangan gaz ballonlarining o'tishi to'g'risidagi hujjatlarni taqdim etish, sertifikatlash (barcha hujjatlar nusxasi asliga to'g'ri yozuvda ishlab chiqaruvchining muhri bilan tasdiqlangan bo'lishi kerak). Gaz ballonlarining sinov hisobotlarini taqdim etish kerak.</p>	<p>Вся сопроводительная, техническая документация, сертификаты качества, а также инструкция по безопасности отправляется покупателю вместе с товаром. Необходимо предоставить документацию о прохождении металлических сварных газовых баллонов, сертификации (все документы должны быть заверены печатью, завода-изготовителя с надписью копия верна). Необходимо предоставить протоколы испытаний газовых баллонов.</p>	<p>All accompanying, technical documentation, quality certificates, as well as safety instructions are sent to the buyer along with the goods. It is necessary to provide documentation on the passage of metal welded gas cylinders, certification (all documents must be certified by the seal of the manufacturer with an inscription copy is correct). It is necessary to provide test reports of gas cylinders.</p>	
<p><b>6. TRANSPORT QILISH TALABLARI</b></p>	<p><b>6. ТРЕБОВАНИЯ К ТРАНСПОРТИРОВАНИЮ</b></p>	<p><b>6. TRANSPORTATION REQUIREMENTS</b></p>	
<p>Tovarlarni transport vositalarida tashish har bir tovarga tegishli tashish bo'yicha xalqaro standartlar va qoidalarga muvofiq amalga oshirilishi kerak.</p>	<p>Перевозка товаров с помощью транспортных средств должна осуществляться в соответствии с международными стандартами и правилами перевозки каждого товара.</p>	<p>Transportation of goods by means of vehicles must be carried out in accordance with international standards and rules for the transport of each product.</p>	
<p><b>7. KAFOLATLAR HAJMI VA/YOKI MUDDATIGA TALABLAR</b></p>	<p><b>7. ТРЕБОВАНИЯ К ОБЪЕМУ И/ИЛИ СРОКУ ПРЕДОСТАВЛЕНИЯ ГАРАНТИЙ</b></p>	<p><b>7. REQUIREMENTS FOR THE SCOPE AND/OR PERIOD OF GUARANTEES</b></p>	
<p>Tovarlarni saqlashning kafolat muddati, saqlash talablariga rioya qilgan holda, xaridorga tovar etkazib berilgan kundan boshlab kamida 24 oy bo'lishi kerak.</p>	<p>Гарантийной срок хранения Товара должен составлять не менее 24 месяцев с даты поставки Товара Покупателю, при условии соблюдения требований к хранению</p>	<p>The guaranteed period of storage of the Goods must be at least 24 months from the date of delivery of the Goods to the Buyer, subject to the storage requirements</p>	
<p><b>8. EKKOLOGIYA VA SANITARIYA TALABLAR</b></p>	<p><b>8. ЭКОЛОГИЧЕСКИЕ И САНИТАРНЫЕ ТРЕБОВАНИЯ</b></p>	<p><b>8. ENVIRONMENTAL AND SANITARY REQUIREMENTS</b></p>	
<p>Mahsulot O'zbekiston Respublikasida belgilangan ekologik va sanitariya talablariga javob berishi, gigiyenik sertifikatga ega bo'lishi kerak (agar mahsulot gigiyenik sertifikatlash uchun majburiy bo'lsa).</p>	<p>Товар должен соответствовать экологическим и санитарным требованиям, установленным в республике Узбекистан, и должен иметь гигиенический сертификат (если товар является обязательным к гигиенической сертификации).</p>	<p>The product must comply with the environmental and sanitary requirements established in the Republic of Uzbekistan and must have a hygienic certificate (if the product is mandatory for hygienic certification).</p>	
<p><b>9. XAVFSIZLIK TALABLARI</b></p>	<p><b>9. ТРЕБОВАНИЯ ПО БЕЗОПАСНОСТИ</b></p>	<p><b>9. SAFETY REQUIREMENTS</b></p>	
<p>Mahsulotni ishlatish, saqlash va yo'q qilish paytida xavfsiz bo'lishi kerak.</p>	<p>Товар должно быть безопасным при его эксплуатации, хранении, а также утилизации.</p>	<p>The goods shall be safe during their operation, storage and disposal.</p>	
<p><b>10. MIQDOR TALABLARI</b></p>	<p><b>10. ТРЕБОВАНИЯ К КОЛИЧЕСТВУ</b></p>	<p><b>10. REQUIREMENTS FOR QUANTITY</b></p>	
<p>Quyidagilar yoki ularga texnik jihatdan teng bo'lgan analoglari taklif qilinishi mumkin.</p>	<p>Могут быть предложены следующие или их технически эквивалентные аналоги.</p>	<p>The following or their technically equivalent analogs can be offered.</p>	
<p>№ Наименование МТР /Name of goods</p>	<p>Требования к МТР/ Requirements for the goods</p>	<p>Ед.Изм./Unit</p>	<p>кол-во /Qty</p>
<p>1. Sarf ajratkichlari / Flow switch / Переключатель по расходу</p>	<p>V6EPS-S-S-1-8</p>	<p>dona/шт./pcs</p>	<p>2</p>
<p>2. Sarf ajratkichlari / Flow switch universal flow / Переключатель по расходу универсальные расходомеры</p>	<p>LN-D-S-B-300-LM-20-32V1.0-R30-W-R-HT-100D</p>	<p>dona/шт./pcs</p>	<p>10</p>
<p><b>11. QABUL QILGAN QISQARMALAR RO'YXATI</b></p>	<p><b>11. ПЕРЕЧЕНЬ ПРИНЯТЫХ СОКРАЩЕНИЙ</b></p>	<p><b>11. LIST OF ACCEPTED ABBREVIATIONS</b></p>	

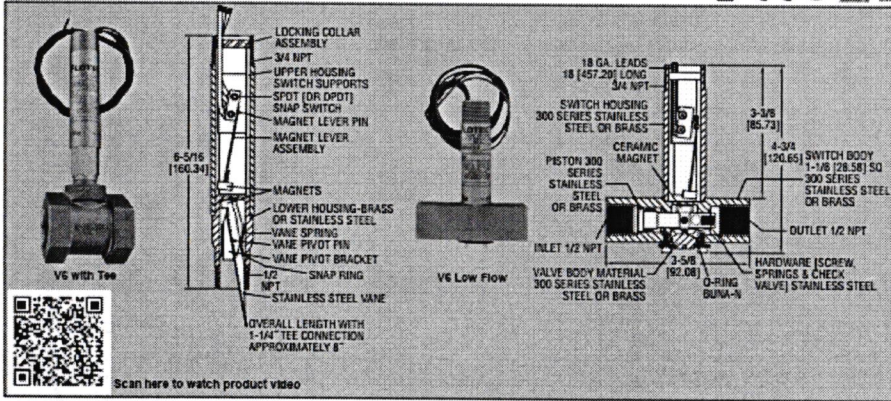






# Series V6 FLOTECT® Mini-Size Flow Switches

Monitor flow in 1/2" to 2" pipe, Explosion-proof



Surprisingly compact, the Series V6 FloTECT® Flow Switch is engineered to specifically monitor liquid, gas, or airflows. Operation is simple and dependable with no mechanical linkage as the flow switch is magnetically actuated. The lower body holds the flow vane and one magnet, which controls the switch actuating magnet in the separate upper housing. In most applications the switch is normally set with the pipeline flow forcing the vane against the vane spring. As the flow decreases the vane spring pushes back the vane, actuating the switch to signal an alarm or shutdown. Tees are available for installation in pipelines from 1/2" to 2", with bushings added the unit is easily adapted to 1/4" and 3/8" piping.

**FEATURES**

- Leak proof lower body machined from bar stock
- Choice of models in a tee with calibrated vane or field adjustable trimmable vane
- Weatherproof
- Explosion-proof (listing included in specifications)
- Electrical assembly can be easily replaced without removing the unit from the installation so that the process does not have to be shut down
- High pressure rating of 1000 psig (69 bar) with brass body and 2000 psig (138 bar) on the 316 SS body (see specifications)
- Low flow model offers field adjustable set point
- Easy installation, simply insert the tee in the pipeline and complete electrical connections

**APPLICATIONS**

- Protects pumps, motors and other equipment against low or no flow
- Controls sequential operation of pumps
- Automatically starts auxiliary pumps and engines
- Shuts down burner when air flow through heating coil fails
- Controls dampers according to flow

**SPECIFICATIONS**

**Service:** Gases or liquids compatible with wetted materials.  
**Wetted Materials:** Standard V6 Models: Vane: 301 SS; Lower Body: brass or 303 SS; Magnet: ceramic; Other: 301, 302 SS; Tee: brass, iron, forged steel, or 304 SS.  
**V6 Low Flow Models:** Lower Body: brass or 303 SS; Tee: brass or 304 SS; Magnet: ceramic; O-ring: Buna-N standard, Fluoroelastomer optional; Other: 301, 302 SS.

**Temperature Limits:** -4 to 220°F (-20 to 105°C) Standard, MT high temperature option 400°F (205°C) (MT not UL, CSA, ATEX, IECEx or KC) ATEX Compliant AT, IECEx IEC Option and KC (KC Option), Ambient Temperature -4 to 167°F (-20 to 75°C) Process Temperature: -4 to 220°F (-20 to 105°C).  
**Pressure Limit:** Brass lower body with no tee models 1000 psig (69 bar), 303 SS lower body with no tee models 2000 psig (138 bar). Brass tee models 250 psi (17.2 bar), Iron tee models 1000 psi (69 bar), forged and stainless steel tee models 2000 psi (138 bar), low flow models 1450 psi (100 bar).

**Enclosure Rating:** Weatherproof and Explosion-proof. Listed with UL and CSA for Class I, Groups A, B, C and D; Class II, Groups E, F, and G. (Group A on stainless steel body models only).  
**ATEX (C 0344) II 2 G Ex c IIC T6 Gb Process Temp=75°C Alternate Temperature Class TS Process Temp=90°C, 115°C (T4) Process Temp =105°C consult factory. EC-type Certificate No.: KEMA 04ATEX2128.**  
**ATEX Standards:** EN 60079-0: 2009; EN 60079-1: 2007.  
**IECEx Certified:** For Ex c IIC T6 Gb Process Temp=75°C Alternate Temperature Class TS Process Temp=90°C, 115°C (T4) Process Temp=105°C consult factory.  
**IECEx Certificate of Conformity:** IECEx DEX 11 0019.  
**IECEx Standards:** IEC 60079-0: 2007; IEC 60079-1: 2007.  
**Korean Certified (KC) for:** Ex c IIC T6 Gb Process Temp=75°C; KTL Certificate Number: 2012-2454-75.

**Switch Type:** SPDT snap switch standard, DPDT snap switch optional.  
**Electrical Rating:** UL models: SA @ 125/250 VAC, CSA, ATEX and IECEx models: SA @ 125/250 VAC (V~), SA res., 3A Ind. @ 30 VDC (V~). MV option: 1A @ 125 VAC (V~), MT option: SA @ 125/250 VAC (V~), [MT option not UL, CSA, ATEX or IECEx].

**Electrical Connections:** UL models: 18 AWG, 18" (460 mm) long, ATEX/CSA AECEx models: terminal block.  
**Upper Body:** Brass or 303 stainless steel.  
**Conduit Connections:** 3/4" male NPT standard, 3/4" female NPT on junction box models.

**Process Connection:** 1/2" male NPT on models without a tee.  
**Mounting Orientation:** Switch can be installed in any position but the actuation/deactuation flow rates in the charts are based on horizontal pipe runs and are nominal values.

**Set Point Adjustment:** Standard V6 models none. Without tee models vane is trimmable. Low flow models are field adjustable in the range shown. See set point charts.  
**Weight:** 2 to 6 lb (.9 to 2.7 kg) depending on construction.  
**Options not Shown:** Custom calibration, bushings, PVC tee, reinforced vane, DPDT relays.

**Agency Approvals:** ATEX, CE, CSA, IECEx, KTL, UL.

Example	V6	EP	B-B	S	2	B	MT	V6EPB-B-S-2-B-MT flow switch; brass body, brass tee with 3/4" NPT connections, SPDT snap switch, and high temperature option
Series	V6							Series V6 flow switch
Construction		EP						Explosion proof
Body			B-B					Brass
			S-S					SS
Circuit (Switch)				S				SPDT
				D				DPDT
Tee Connection Size					1			1/2" NPT
					2			3/4" NPT
					3			1" NPT
					4			1-1/4" NPT
					5			1-1/2" NPT
					6			2" NPT
					LF			Low Flow Model (1/2" NPT connections)
Tee Material						MI		Iron
						FS		Forged Steel
						B		Brass
						S		SS
						0		No tee, field trimmable vane** (For LF Model no tee material chosen, tee material matches body choice)
Options							CSA	CSA approved construction with junction box*
							AT	ATEX compliant construction with junction box
							IEC	IECEx certified construction with junction box
							MV	Gold contacts on snap switch for dry circuits (see specifications for ratings)
							MT	High temperature option rated 400°F (205°C) (see specifications for ratings)*
							VIT	Fluoroelastomer O-rings in place of Buna-N on low flow models

\*Options that do not have ATEX.

\*\*Vane will be trimmed to the connection size. If full field trimmable vane is desired, must select with tee connection size 6.

**V6 Set Point Charts - Factory Installed Tee**

Pipe Size	Approximate Actuation-Deactuation Flow Rates for Air. Upper figures are SCFM, Lower figures in LPM	
	Actuate	Deactuate
1/2"	6.50 180	5.00 120
3/4"	10.0 300	8.00 240
1"	14.0 420	12.0 360
1-1/4"	21.0 600	18.0 540
1-1/2"	33.0 960	30.0 840
2"	43.0 1200	36.0 1020

Pipe Size	Approximate Actuation-Deactuation Flow Rates for Cold Water. Upper figures are GPM, Lower figures in LPM	
	Actuate	Deactuate
1/2"	1.50 5.667	1.00 3.83
3/4"	2.00 7.5	1.25 4.67
1"	3.00 11.33	1.75 6.67
1-1/4"	4.00 15.17	3.00 11.3
1-1/2"	6.00 22.67	5.00 18.9
2"	10.00 37.83	8.50 32.2

Model	Size	Body	Tee
V6EPB-B-S-1-B	1/2"	Brass	Brass
V6EPB-B-S-2-B	3/4"	Brass	Brass
V6EPB-B-S-3-B	1"	Brass	Brass
V6EPB-B-S-4-B	1-1/4"	Brass	Brass
V6EPB-B-S-5-B	1-1/2"	Brass	Brass
V6EPB-B-S-6-B	2"	Brass	Brass
V6EPB-B-S-1-MI	1/2"	Brass	Iron
V6EPB-B-S-2-MI	3/4"	Brass	Iron
V6EPB-B-S-3-MI	1"	Brass	Iron
V6EPB-B-S-4-MI	1-1/4"	Brass	Iron
V6EPB-B-S-5-MI	1-1/2"	Brass	Iron
V6EPB-B-S-6-MI	2"	Brass	Iron
V6EPS-S-S-1-FS	1/2"	SS	FS
V6EPS-S-S-2-FS	3/4"	SS	FS
V6EPS-S-S-3-FS	1"	SS	FS
V6EPS-S-S-4-FS	1-1/4"	SS	FS
V6EPS-S-S-5-FS	1-1/2"	SS	FS
V6EPS-S-S-6-FS	2"	SS	FS
V6EPB-B-S-6-0	No Tee	Brass	None
V6EPS-S-S-6-0	No Tee	SS	None
V6EPB-B-S-LF	1/2"	Brass	LF, Brass
V6EPS-S-S-LF	1/2"	SS	LF, SS

**V6 Low Flow Set Point Chart**

Media	Min-Actuate	Max-Deactuate
GPM-Water	04-0.75	03-0.80
LPM-Water	15-2.84	11-2.27
SCFM-Air	18-2.70	15-2.0
LPS-Air	00-1.3	07-.95

Pressure drop (head loss) is a function of both set point and flow rate. Typically, pressure drop at actuation flow rate listed will be 5-10 psid (.34-.69 bar). Pressure drops at other flow rates will vary in proportion to the (change in flow).



**HOW TO ORDER** Select appropriate symbols and build a model code number, as in example shown:

**EXAMPLE:** LN - F S F 200 GM - 20 - 32V1.0 -

**SERIES**

Large vane style  
Normal pressure = LN  
High pressure = LE

**HOUSING MATERIAL (Series LN)**

Aluminum = D  
Aluminum (hard coated) = E  
Brass = F  
Cast iron = C  
Cast iron, nickel plated = N  
Carbon steel = M  
Carbon steel, nickel plated = J  
Stainless steel (316) = I  
Alum./Brass Center Section = Q

**HOUSING MATERIAL (Series LE)**

Carbon steel = M  
Carbon steel, nickel plated = J  
Stainless steel (316) = I

**INTERNAL MOVING PARTS**

Stainless steel (300 series) = S  
Stainless steel (316) = I  
Monel = L  
Titanium = T

**SEAL MATERIAL**

Buna N = B  
EPR (not avail. on petroleum base fluid) = E  
Viton® = F  
Kalrez™ (dynamic) and Teflon (static) = T  
Kalrez (dynamic) and Buna N (static) = A  
Kalrez (dynamic) and EPR (static) = H  
Kalrez (dynamic) and Viton (static) = K

**MAX FLOW RATING**

Gallons Per Minute		GPM
Calibration Increments		Reading
Round Boxes	Other Boxes	Min - Max
5	10	8 - 80
5	10	10 - 100
5	20	10 - 150
10	20	20 - 200
10	25	30 - 300
20	25	50 - 400*
20	25	50 - 500*

Liters Per Minute		LPM
Calibration Increments		Reading
Round Boxes	Other Boxes	Min - Max
10	25	30 - 300
20	25	40 - 400
20	50	40 - 600
25	100	80 - 800
50	100	120 - 1200
50	100	150 - 1500*
100	100	180 - 1800*

Cubic Meters Per Hour		CMH
Calibration Increments		Reading
Round Boxes	Other Boxes	Min - Max
2	10	4 - 40
2	10	5 - 50
2	10	7 - 70
5	20	10 - 90*
5	20	10 - 120*

Note: Custom scales are available in any units and increments on special order.  
\*Requires special option dual spring (DS).

**FLUID CHARACTERISTICS**

Viscosity number, followed by a "V" (for SSU), a "C" (for centipoise), or a "CS" (for centistokes), plus the fluid specific gravity. (32V 1.0 would mean water.) For dual viscosity give two numbers separated by a slash (example: 320/500V1.0).

**PORT CONNECTION**

Inches	MM	Threaded	Socket-Weld	ANSI	Max. Flow
		SAE-Style Flanges (NPT)	SAE-Style Flanges (Pipe)	Style Flanges (GPM) (LPM)	
1-1/2	38.10	= 12	= 12W	= 12F	100 378
2	50.80	= 16	= 16W	= 16F	150 567
2-1/2	63.50	= 20	= 20W	= 20F	300 1134
3	76.20	= 24	= 24W	= 24F	400 1512
4	101.6	= 32	= 32W	= 32F	500 1890

Flanges are steel; stainless steel units have stainless steel flanges. ANSI flanges also available. (Refer to page 129)

**SCALE CALIBRATIONS**

Calibrated in gallons per minute = GM  
Calibrated in liters per minute = LM  
Dual scales (GPM and LPM)\* = GLM  
Cubic meters per hour = CMH

\*For specific calibrated increments and other scales consult factory

Consult factory for compatibility of construction materials with the fluid involved.

R61 W R - HT 100D

**FLOW DIRECTION**

R = Left to right  
L = Right to left  
U = Up  
D = Down

**SERVICE**

W = Weatherproof (Type 4)  
X = Weatherproof, corrosion proof (Type 4X)

**INITIAL SWITCH SETTING**

No symbol = Lowest possible  
Or, give setting(s) in GPM, LPM, etc. Also a symbol to indicate that accuracy is desired during increasing flow (U) or decreasing flow (D).  
(100D) would mean that switch will actuate when flow rate decreases to 100 GPM.) Settings are field adjustable.

**SPECIAL OPTIONS**

HT = High-temp, 400°F for A & R Box (300°F for transmitter options GT, RT & TT Boxes)  
ST = Stainless steel ID tag  
PC\* = Pin connector with 3-6 pins, mini and micro style available  
FL\* = Fault light(s)  
TG = Tempered glass window  
Note: These options are described more fully in "Options for Vane and Piston style flowmeters."

**STANDARD CONTROL BOX & READOUT (switches)**

**R Box**  
High resolution pointer and scale for more accurate reading, optional switches

R0 = Scale & pointer only  
R1 = One SPDT (3wire), CE  
R2 = Two SPDT (3 wire), CE  
R3 = One SPDT (4 wire)  
R4 = Two SPDT (4 wire)  
R53 = One SPDT (3 wire) hermetically sealed  
R54 = Two SPDT (3 wire) hermetically sealed  
R61 = One SPDT (3 wire) high temperature  
R62 = Two SPDT (3 wire) high temperature  
R71 = One SPDT (3wire) gold contact  
R72 = Two SPDT (3wire) gold contact

**R Box**  
Hazardous location indication and switches

R7 = One SPDT hazardous location  
R17 = One DPDT hazardous location  
R18 = Two SPDT mechanical  
R19 = Two DPDT mechanical  
R30 = One SPST hazardous location proximity  
R31 = Two SPST hazardous location proximity

**G Box**  
Transmitter with digital display and two open collectors (standard), or remote display (optional)

GTL0 = internal 4-20 mA transmitter with two open collector alarms  
GTLZ0 = intrinsically safe 4-20 mA transmitter (no alarms)  
GPD = G Box with remote transmitter. This requires a remote display and transmitter to be ordered as a separate line item. Model UT-PM-DTLCD.

Note: G Box requires "W" service selection (weatherproof). G Box has a terminal strip but can be used with pin connectors ordered as Special Options as described above. Select PC5M for GTL and PC3M for GTLZ or GP.

**SPECIAL OFFERINGS**

**RT Box**  
High resolution pointer and scale for more accurate reading, 4-20 mA Transmitter, optional high amp mechanical switch

RT0 = Scale & pointer only  
RT1 = One SPDT (3wire), CE  
RT53 = One SPDT (3 wire) hermetically sealed  
RT61 = One SPDT (3 wire) high temperature  
RT71 = One SPDT (3wire) gold contact

**TT Box**  
4-20 mA Transmitter with pointer & scale, optional high amp mechanical switch, separate junction boxes for switch & transmitter

TT0 = Scale & pointer only  
TT1 = One SPDT (3wire), CE  
TT3 = One SPDT (4 wire)  
TT53 = One SPDT (3 wire) hermetically sealed  
TT61 = One SPDT (3 wire) high temperature  
TT71 = One SPDT (3wire) gold contact

**TTL Box**  
4-20 mA Transmitter with digital display, optional high amp mechanical switch, separate junction boxes for switch & transmitter

TTL0 = Scale & pointer only  
TTL1 = One SPDT (3wire), CE  
TTL3 = One SPDT (4 wire)  
TTL53 = One SPDT (3 wire) hermetically sealed  
TTL61 = One SPDT (3 wire) high temperature  
TTL71 = One SPDT (3wire) gold contact

