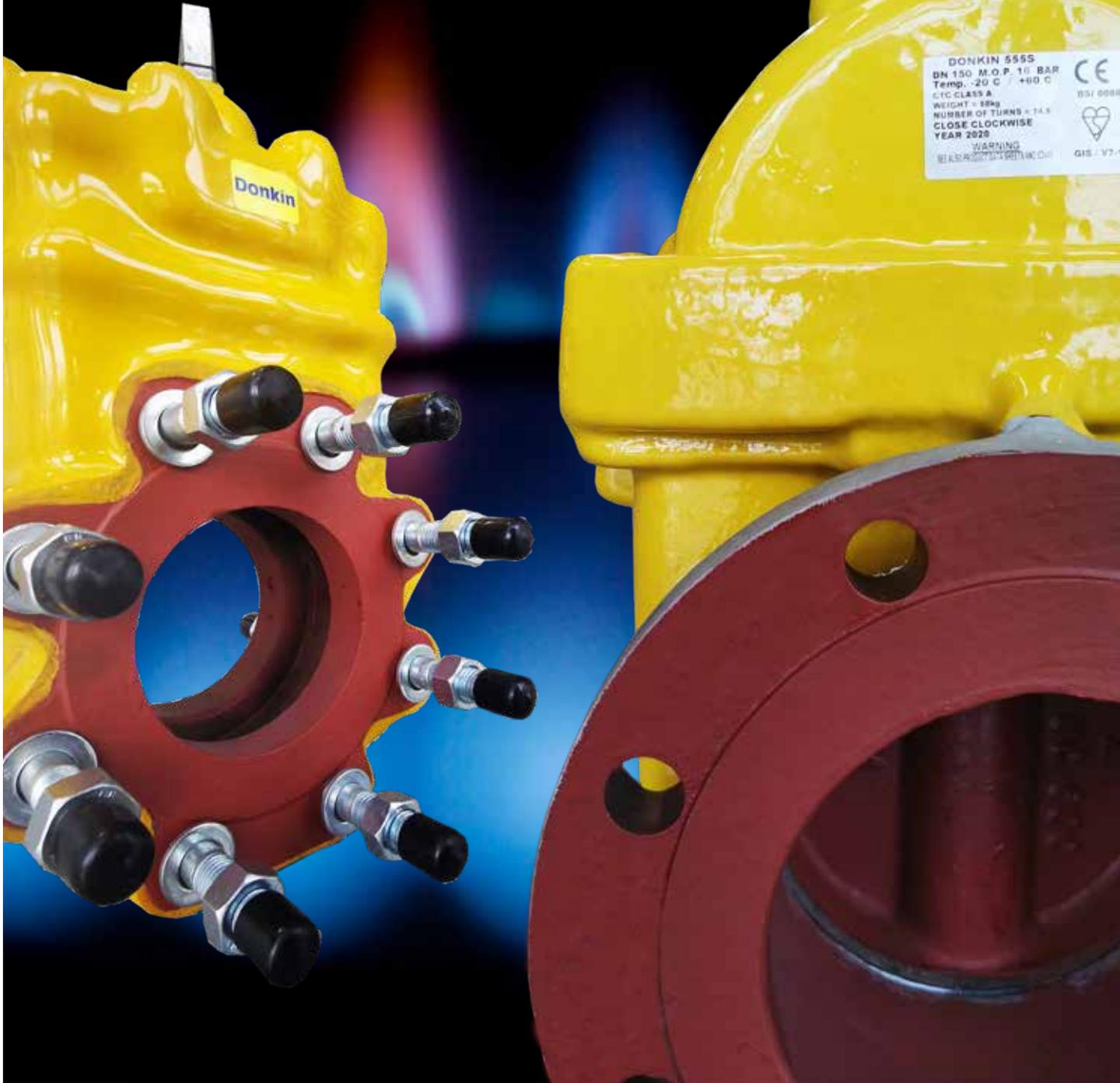


DONKIN ASSET PROTECTION SYSTEM

WARRANTY
UP TO
20 YEARS*



DONKIN ASSET
PROTECTION
SYSTEM



THE DONKIN ASSET PROTECTION SYSTEM FOR VALVES

As part of AVK's commitment to provide our customers with solutions, not just products, we have developed the Donkin Asset Protection System for our market leading gas valve range.

The system in its entirety has been designed to ensure that valve installations are quicker, of a consistently high quality, and are fully traceable and auditable. The system also improves the asset life and integrity of the valve whilst negating the need for additional protection systems.

The full system is comprised of five main elements that deliver these benefits

- A unique, factory applied, high performance Polyurethane coating, specially developed by AVK to withstand the rigors and challenges of underground installation.
- Factory fitted PE tails.
- AVK ASSIST to log, locate and audit valves
- Stainless steel spindle.
- Stem cap.

Our extensive research, experience and testing have given us the confidence to offer a warranty of 20 years* for valves which incorporate all the above features.



GIS/V7-1 & GIS/PL3
Coated to BS EN 10290
Complies with T/SP/CW/6-2

Available ex-stock from Donkin

FEATURES AND BENEFITS

REDUCE VALVE WRAPPING - The Polyurethane coated, PE tailed, Series 555 can be installed **without** any further corrosion protection required, so it's just a case of install, record and backfill. Valves with flanged ends have fully protected valve bodies but will still need to be wrapped on the connecting flanges to ensure that the connecting bolts are fully protected. This is a **major saving** on both models when compared to wrapping the whole valve.

SPEED UP INSTALLATION - Fitting the Donkin Polyurethane coated, PE tailed valves increases the speed of installation by eliminating the time taken to bolt up the connecting flanges and fully wrap the installation. The estimated potential **labour saving** is up to **2 hours** on a DN300 valve.

When compared to field applied liquid coatings (which can take up to 24 hours to cure) there is considerable time saving using this factory applied system.

REDUCE POTENTIAL FOR UNDERGROUND LEAKS - The Donkin PE tailed Polyurethane coated valves are factory fitted and tested. The PE ends are directly electrofused to the PE pipeline, eliminating the need for bolted joints, removing the potential for leaks and increasing the asset integrity value of the pipeline.

VALVE ASSET TRACKING - AVK ASSIST App ensures installed valves are logged with a GPS location, photograph and installation record, providing easily accessible and accurate data to allow full auditing of installed works.

***EXTENDED WARRANTY** - When you purchase the Series 555 PE tailed valves with the Donkin Polyurethane coating, stainless steel spindle, stem cap and register with the AVK Assist App, **AVK will offer a comprehensive 20 year warranty on the corrosion protection of the valve.**

APPROVED TO RECOGNISED STANDARDS - The Donkin Polyurethane coating offered by AVK has been used extensively by gas customers on mainland Europe and in the UK for a number of years. It is fully type tested to European standard EN 10290 and also complies with all the relevant parts of UK gas standard T/SP/CW/6-2. In addition we have undertaken several site specific tests to validate and approve the robustness of the coating. These high level tests assure total confidence in its ability to fully protect your buried assets.

CONCLUSION - The Donkin Series 555, PE tailed, Polyurethane coated valve with stainless steel spindle, stem cap and the AVK Valve Installation Tracker will **ensure a lower cost, high integrity** buried valve installation.

SIZE RANGE - PE ended version with pipe diameters from 90-400mm.

For flanged applications : We offer the Donkin Series 555 flanged valve with the Donkin Polyurethane coating and Installation Tracker.

Note : Flanged connections still require additional corrosion protection.

Size range: Expanding range now to DN800.

DONKIN

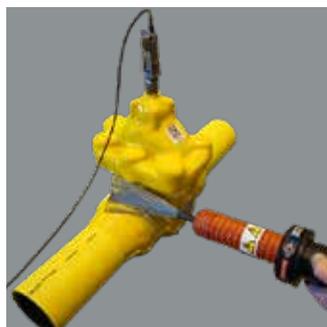
POLYURETHANE COATING PERFORMANCE TESTS

	BS EN 10290	T/SP/CW/6-2	DONKIN IN-HOUSE TESTS	
STANDARD	Steel tubes and fittings for onshore and offshore pipelines	Specification for the external protection of steel line pipe and fittings using fusion bonded powder and associated coating systems — Part 2: Factory applied coatings.	Additional tests	Donkin Polyurethane coating test results
MINIMUM THICKNESS	Class A 1000 microns Class B 1500 microns	Minimum 1500 microns		Min. coating thickness measured ≥ 1500 microns (Coated in accordance with BS EN 10290 class B)
HOLIDAY DETECTION	8 volts per micron with max of 20kV	125 volts per 25 microns (i.e. 5 volts per micron)	Test at 20kV	No holidays detected at 20kV
IMPACT RESISTANCE	5 Joules per mm (1500 microns) of coating at 23°C. This equates to a minimum of 7.5 Joules (1.5 x 5) at 23°C. In layman's terms this is equivalent to dropping a M24 spanner from a height of 0.83 metres	5 Joules at 23 °C		No visual damage or holidays detected with a 3.5kg bar with 25mm spherical tip up to 15 Joules per mm at 23°C. This is equivalent to dropping a M24 spanner from a height of 2.5 metres at 23°C. (Based on 1.5mm thickness)
	3 Joules per mm of coating at -5°C.			No visual damage or holidays detected up to 12 Joules per mm at -5°C.
CHIP TEST (SIMULATE BACK FILLING)			Drop 16kg of nominal 14mm diameter rounded stones from 2 metres. Perform holiday test. Repeat. The coating must be able to withstand 2 drops in succession.	No visual damage or holidays detected.
DROP TEST			Roll valve (71kg) off pallet (145mm height) and check for visual impact damage and holidays.	No visual damage or holidays detected when tested up to 97 Joules.

MINIMUM COATING THICKNESS



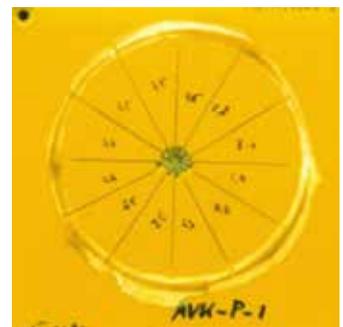
HOLIDAY DETECTION



ADHESION - PULL OFF TEST



CATHODIC DISBONDMENT



VALVE OPTIONS

**PREMIUM
PRODUCT**

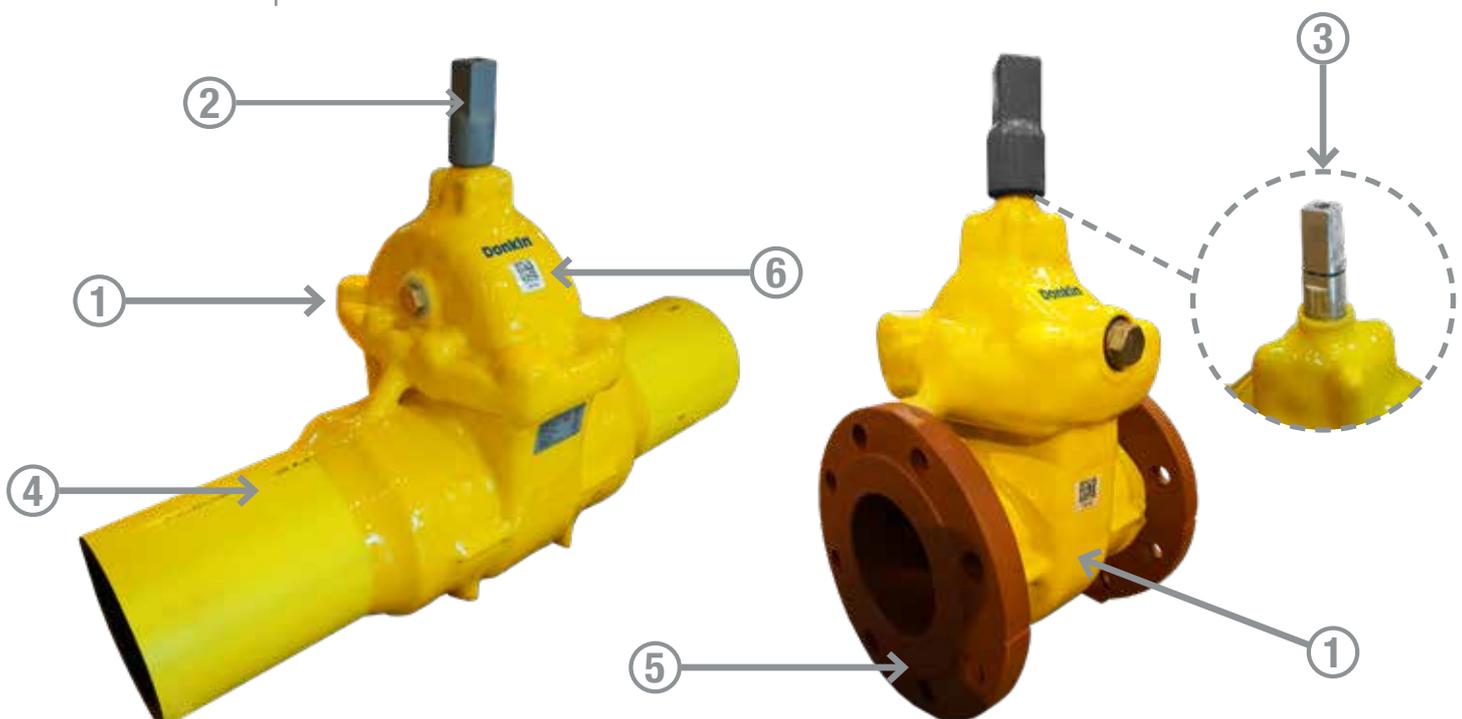


The Premium Product 20 year warranty* for Series 555 valves incorporates all of the following options: The Donkin Polyurethane Coating, Stainless Steel Spindle, PE Tails and False Cap, combined with the use of AVK Assist

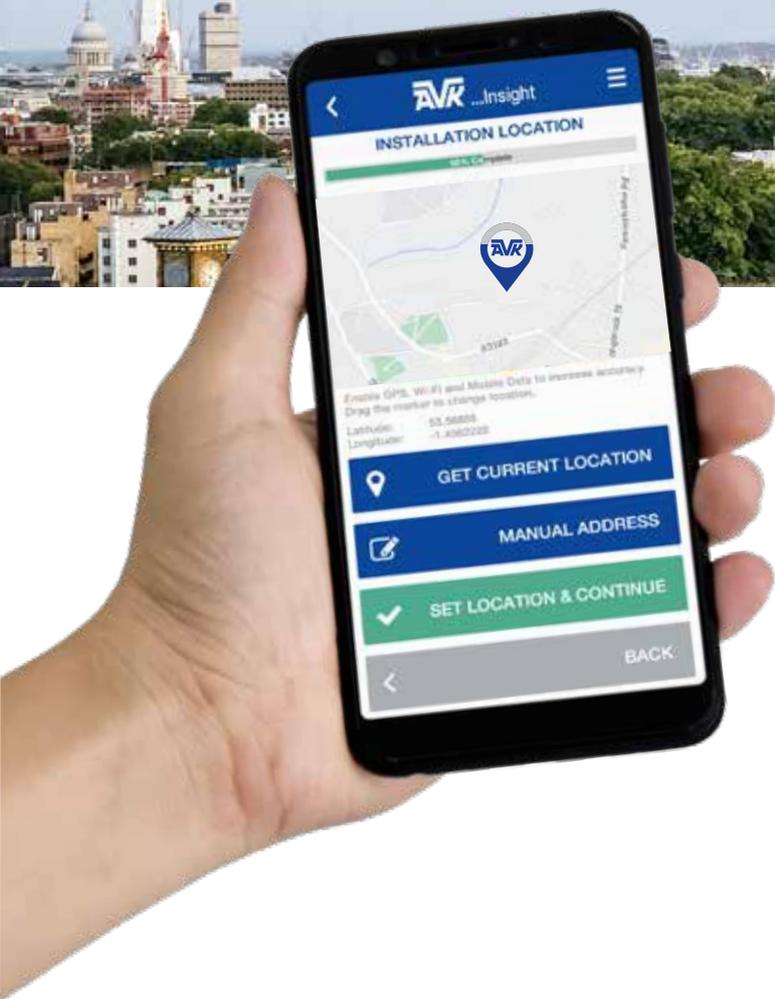
*Changes in this specification may result in a shorter warranty offer.

OPTIONS AVAILABLE

1. COATING	The Donkin Polyurethane coating is our premium option for asset protection for buried applications. Alternative options are available for different applications.
2. STEM CAP	Each buried valve should be fitted with a stem cap on top of the operating spindle. The purpose of this device is two fold. First to standardise the drive size so that one Tee Key can be used to operate all sizes of valves, reducing the number of tools needed in an operators vehicle. Secondly, the stem cap is more robust to the wear and tear of regular use enabling the square drive on the valve spindle to remain intact.
3. SPINDLE MATERIAL	The Premium Product is fitted with a stainless steel spindle (Grade 303S31 EN 10088) enabling confidence for use in long term buried environments. The option to reduce cost exists by using a carbon steel spindle if the buried environment is suitable.
4. PE TAILS	The premium product for buried service in a PE main is the PE tailed valve. The advantages include factory fitted and tested PE tails, faster installation times, eliminates any bolt tightening issues reducing possible leak paths and the fully coated valve requires no further corrosion protection. The PE tailed valves are Kitemark approved to GIS/V7 Part 1 and GIS PL3.
5. FLANGED	There are applications where flanged joints are essential. For such circumstances the valve is offered with the body and bonnet Polyurethane coated only. This is because a Polyurethane coating cannot be applied to either the flange sealing face or the back of the flange where bolt tension needs to be consistent. When using this option further consideration should be taken for the protection of the connecting flanges and bolts.
6. AVK ASSIST APP REGISTRATION	The QR code affixed to all valves enables the use of AVK Assist (Turn over for more detail).



AVK ASSIST ONE COMBINED SYSTEM FOR ALL ASSETS



AS A LEADING INNOVATOR SOLUTIONS PROVIDER **AVK** BRINGS YOU **AVK ASSIST** - TRACE, KEEP TRACK & STAY INFORMED ABOUT ALL YOUR ASSETS

By building relationships with our partners, through listening and responding to both their key strategies and to their daily operational challenges, we are able to develop solutions led products and services which help deliver and resolve.

AVK ASSIST is a free app, aimed at utility and industrial gas engineers, that helps specify, select and then record the installation quality and GPS location of the asset.

Using AVK ASSIST gives an extended product warranty, and can be integrated into existing customer systems without compromise to data safety and security. No data is held by AVK.

Network management and asset mapping are two key subjects highlighted in the majority of utility strategies as ongoing issues, the AVK ASSIST mobile app can make a major contribution on the journey to a resolution.

The AVK ASSIST app is available to download for free on the App Store and Google Play.

FULL TRACEABILITY IN A FEW SIMPLE STEPS...



The QR code is generated when the valve successfully passes all the relevant test procedures. It assigns a unique serial number for the product which is linked to the full material and test records. When installed the data record becomes complete from raw material to accurate position and application.



SCAN THE QR CODE



SET LOCATION



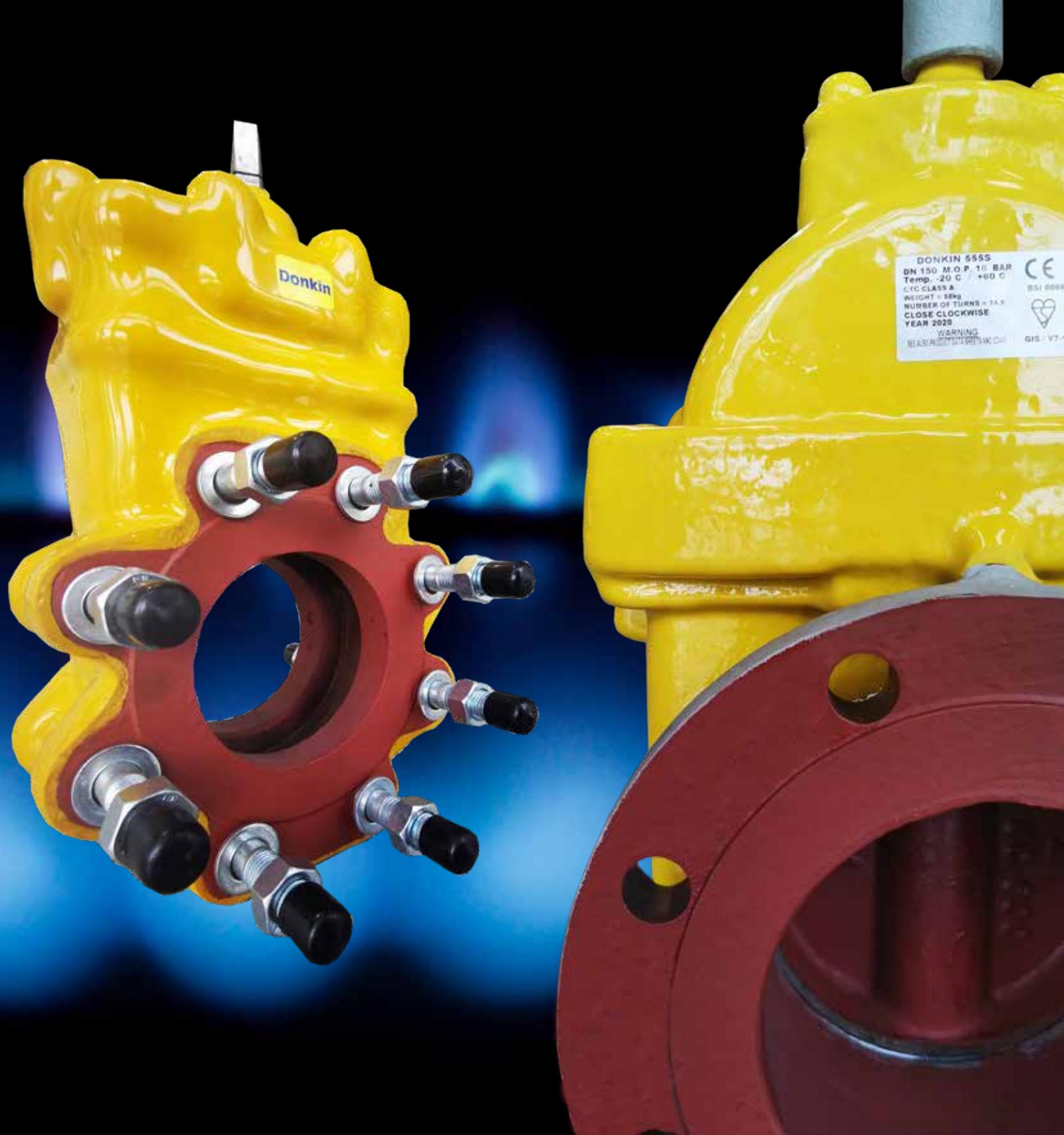
TAKE THE INSTALLATION PICTURE

DOWNLOAD THE APP HERE



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