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ENERGIA ITALY

EG4 DOKOTA

SINGLE INJECTOR

FOR CNG & LPG

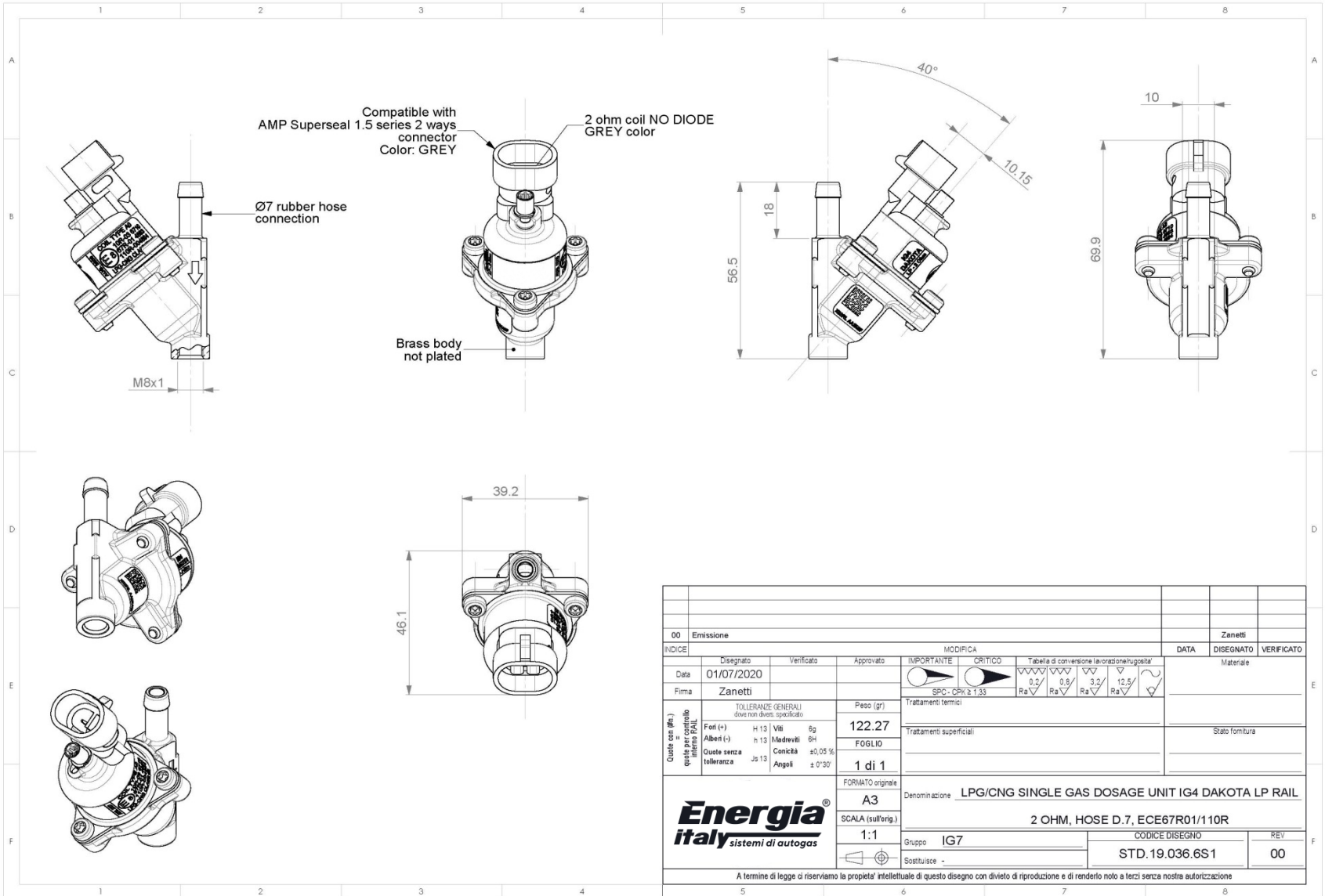




EG4 DAKOTA «HIGH SPEED» SINGLE INJECTOR

- The new EG4 SINGLE INJECTOR A.M. is a new high-performance injector, designed in 2 different versions:
- **EG4 SINGLE INJECTOR ALP:** for LPG/CNG working, from 1 bar (100 kPa) to 3 bar (300 kPa) working pressure; 4,5 bar (450 kPa) max pressure. Neutral coloured body.
- **EG4 SINGLE INJECTOR LHF:** for LPG/CNG working, from 1 bar (100 kPa) to 3 bar (300 kPa) working pressure; 4,5 bar (450 kPa) max pressure. Neutral coloured body , version with increased flow rate until 60 HP /cyl. for LPG and 50 HP/cyl. for CNG

DIMENSIONS

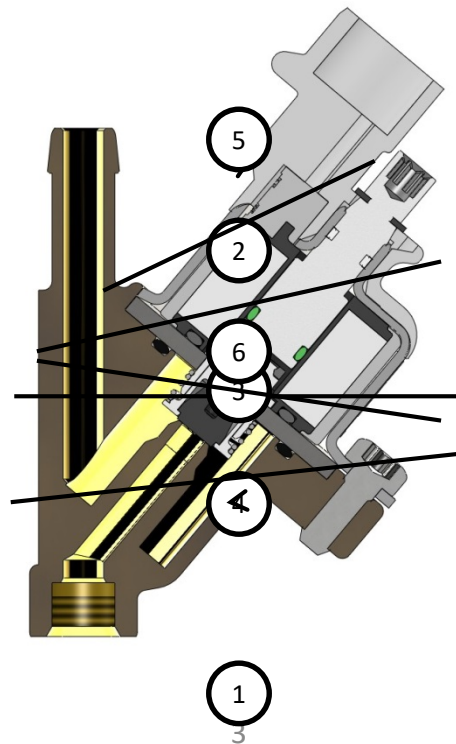


00 Emissione						Zanetti		
INDICE		MODIFICA				DATA	DISEGNATO	VERIFICATO
Data	Disegnato	Verificato	Approvato	IMPORTANTE	CRITICO	Tabella di conversione lavorazione/lugosità	Materiale	
01/07/2020				SPC - CPM 2.1.33		0.2/ Ra√ 0.8/ Ra√ 3.2/ Ra√ 12.5/ Ra√		
Firma	Zanetti		Peso (gr)		Trattamenti termici			
TOLLERANZE GENERALI dove non diversamente specificato			122.27		Trattamenti superficiali			Stato fornitura
Fol (+) H 12 Viti 6g			FOGLIO					
Alberi (-) h 12 Madreviti 6H			1 di 1					
Quote senza tolleranza js 13			Angoli ± 0'30"					
Fonte con #R# quote per controllo interno PALL		FORMATO originale		LPG/CNG SINGLE GAS DOSAGE UNIT IG4 DAKOTA LP RAIL				
Energia italy sistemi di autogas		A3		Denominazione				
SCALA (sull'orig.)		1:1		2 OHM, HOSE D.7, ECE67R01/110R				
Gruppo		IG7		CODICE DISEGNO		REV		
Sostituisce		-		STD.19.036.6S1		00		

A termine di legge di riserviamo la proprietà intellettuale di questo disegno con divieto di riproduzione e di renderlo noto a terzi senza nostra autorizzazione

DEVELOPMENT

1. Developed for gaseous fuel: LPG & CNG
2. Special internal treatments for long operation and reliability; internal damper for quiet operation
3. Advanced design, for good working with high-speed engines
4. LHF Version for high flow capacity
5. Steels realized for specific application
6. Optimized compounds in order to improve the mechanical and chemical resistance



BASIC TECHNICAL DATA

EG4 DAKOTA LP A.M. VERSION – page 1

Characteristic	Unit	Value	Note
Injector Version	N° of cylinders	1 - single injector	
Material body and treatment		Brass	
Relative Pressure	Bar (Psi)	From 0,5 to 3,0 (7 to 43)	Working pressure
		4,5 (65)	Max pressure
Rated voltage (at coil)	Volt	10,8 - 14,4	
Minimum copper wire section for coil connection	mm ²	0,75	
Coil type	by encoding	E2 - Grey cap	
Resistance	Ω	2	± 5% at T= 25°
Suggested peak current time (duration)	ms	2,4	
Suggested holding current	A	1,4	
Complete OPENING Response Time	ms	2	±5% tested with max \varnothing nozzle diameter at 14V $\Delta p=2$ bar T= 25°C
Complete CLOSING Response Time	ms	1,6	
Minimum injection pulse	ms	2,1	14V $\Delta p=2$ bar T= 25°C
Stroke	Micron		
Seat Diameter	mm	3,3	
Static flow rate (with max nozzle Φ) at 20°C (with air)	SLPM (sL/min)	110	at 1 bar inlet pressure
		164	at 2 bar inlet pressure

EG4 DAKOTA LP A.M. VERSION – page 2

Calculated max flow rate(with max nozzle Φ) CNG at 20°C (G20 CNG fluid)	gr/sec	1,6	at 1 bar inlet pressure
		2,4	at 2 bar inlet pressure
	Kg/h	5,8	at 1 bar inlet pressure
		8,7	at 2 bar inlet pressure
Calculated max flow rate(with max nozzle Φ) LPG at 20°C	gr/sec	2,7	at 1 bar inlet pressure
		4,1	at 2 bar inlet pressure
	Kg/h	9,9	at 1 bar inlet pressure
		14,8	at 2 bar inlet pressure
Leakage (tested with air)	cc/h	≤ 15	
Noise level	dB		±1 dB Rail Test Condition
Compatibility with gas		LPG, CNG	
Driver Stage		Peak and Hold (PWM)	
Coil Connector type		2 way Amp/Delphi super seal female connector with tab contacts	Connector dimensions are shown in the RAIL drawing, code 114.01.AMP.001
Approvals		T.B.D.	
Operating Ambient Temperature Range	°C	-40° + 120° C	
Principle of operation		Solenoid valve - Normally closed - Mobile Plunger	
Power handling capability LPG	HP/cyl	1 bar up to 40 HP/cyl	
Power handling capability CNG	HP/cyl	2 bar up to 35 HP/cyl	
Coil IP Rating		IP67	

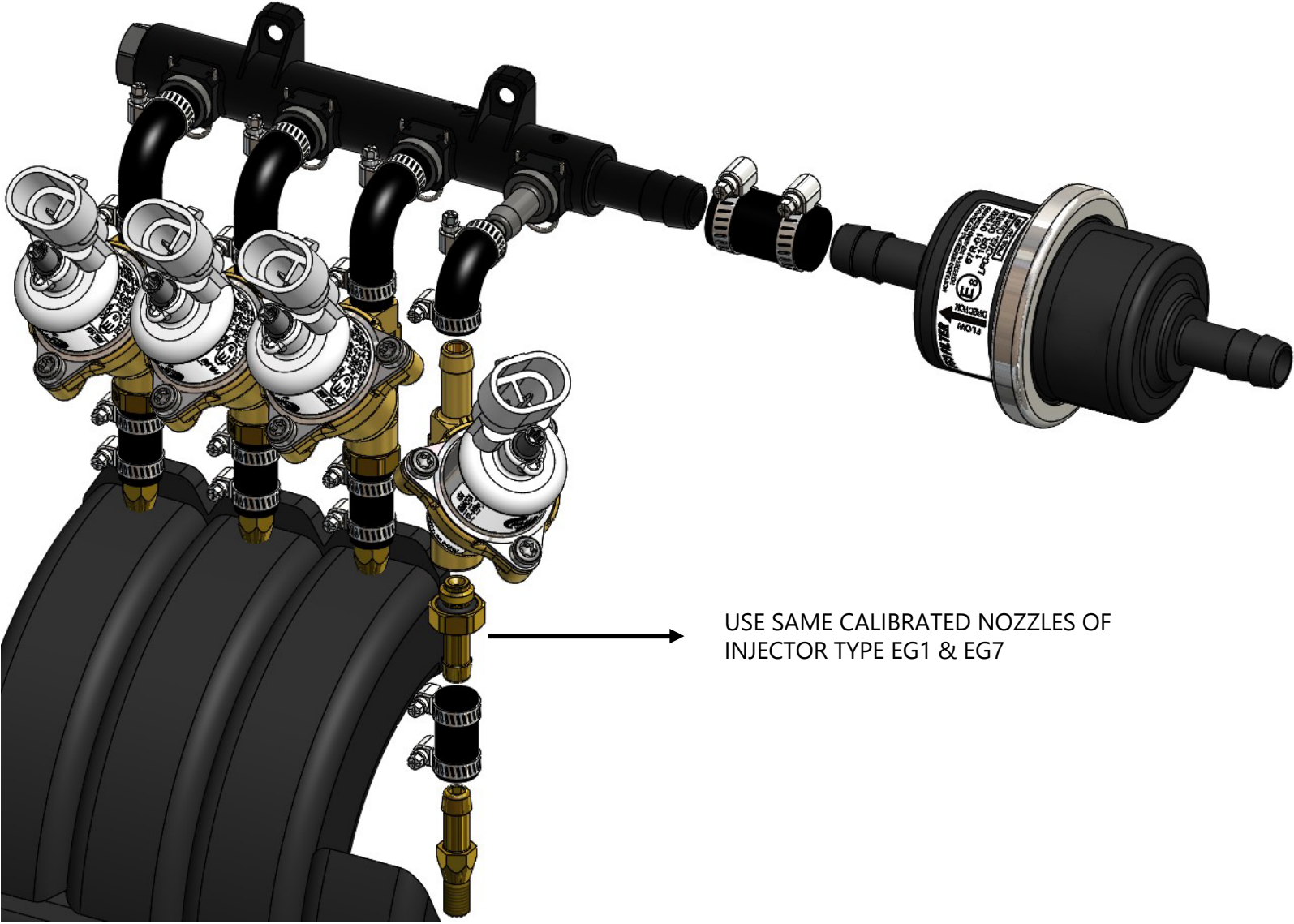
EG4 DAKOTA LHF A.M. VERSION - page 1

Characteristic	Unit	Value	Note
Injector Version	N° of cylinders	1 - single injector	
Material body and treatment		Brass	
Relative Pressure	Bar (Psi)	From 0,5 to 3,0 (7 to 43)	Working pressure
		4,5 (65)	Max pressure
Rated voltage (at coil)	Volt	10,8 - 14,4	
Minimum copper wire section for coil connection	mm ²	0,75	
Coil type	by encoding	E2 - Grey cap	
Resistance	Ω	2	± 5% at T= 25°
Suggested peak current time (duration)	ms	2,4	
Suggested holding current (±10%)	A	1,4	
Complete OPENING Response Time	ms	2,1	(±10% - total injection time 5 ms) ±5% tested without nozzle at 14V Δp=2bar T= 25°C
Complete CLOSING Response Time	ms	1,4	
Minimum injection pulse	ms	2,2	tested with 2 mm nozzle diameter at 14V Δp=2bar T= 25°C
Stroke	Micron		
Seat Diameter	mm	3,8	
Static flow rate (with max nozzle Φ) at 20°C (with air)	SLPM (sL/min)	140	at 1 bar inlet pressure
		210	at 2 bar inlet pressure

EG4 DAKOTA LHF A.M. VERSION - page 2

Calculated max flow rate(with max nozzle Φ) CNG at 20°C (G20 CNG fluid)	gr/sec	2,1	at 1 bar inlet pressure
		3,7	at 2 bar inlet pressure
	Kg/h	7,4	at 1 bar inlet pressure
		11,1	at 2 bar inlet pressure
Calculated max flow rate(with max nozzle Φ) LPG at 20°C	gr/sec	3,5	at 1 bar inlet pressure
		5,3	at 2 bar inlet pressure
	Kg/h	12,6	at 1 bar inlet pressure
		18,9	at 2 bar inlet pressure
Leakage (tested with air)	cc/h	≤ 15	
Noise level	dB		±1 dB Rail Test Condition
Compatibility with gas		LPG, CNG	
Driver Stage		Peak and Hold (PWM)	
Coil Connector type		2 way Amp/Delphi super seal female connector with tab contacts	Connector dimensions are shown in the RAIL drawing, code 114.01.AMP.001
Approvals		T.B.D.	
Operating Ambient Temperature Range	°C	-40° + 120° C	
Principle of operation		Solenoid valve - Normally closed - Mobile Plunger	
Power handling capability LPG	HP/cyl	1 bar up to 60 HP/cyl	
Power handling capability CNG	HP/cyl	2 bar up to 50 HP/cyl	
Coil IP Rating		IP67	

INJECTOR INSTALLATION EXAMPLE



USE SAME CALIBRATED NOZZLES OF INJECTOR TYPE EG1 & EG7

MAINTENANCE

