

# POWER TRANSMISSION SIZING SOFTWARE

**USER GUIDE**



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# 1 Product Description

The web-based software program will allow you to select the most suitable MP Filtri's Bell Housings & Couplings, in accordance to your process design requirements. The program will automatically check your input design process prior to propose you the acceptable solutions and create an output in PDF report style format. The MP Filtri Selection Tool software program is easy to use with a flexible fast design method and provides improved layout formats with full descriptions.

## 2 Technical Features

### 2.1 Desktop version

Compatible browsers: Internet Explorer or later versions; Microsoft Edge or later versions; Chrome; Firefox (suggested)  
Any other browser will be suitable.

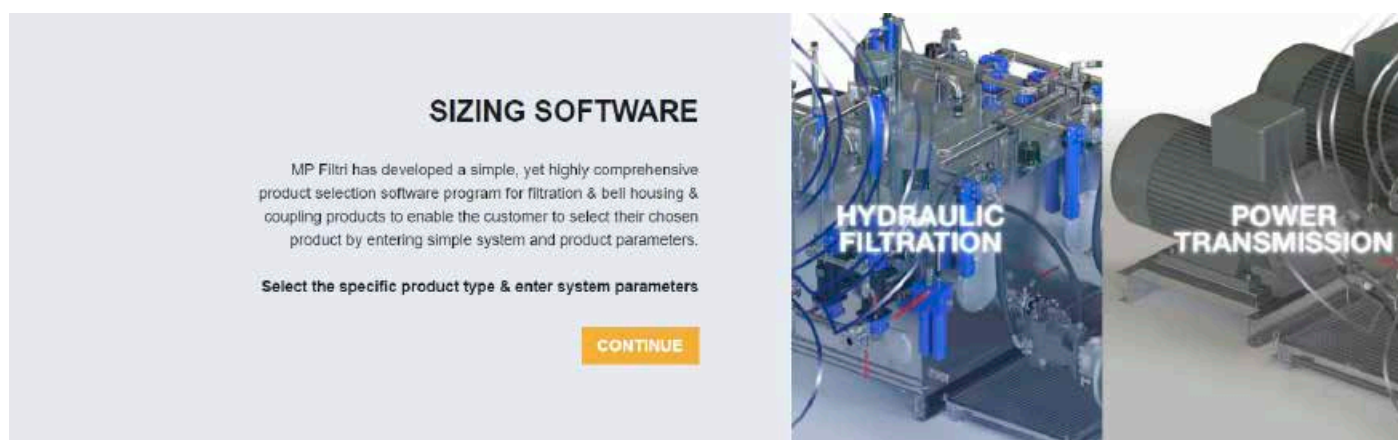
No specific additional software is required to enable the MP Filtri sizing software program to operate successfully.  
Lists and reports will be generated as Microsoft Excel® files in .xls and .csv formats, available to be downloaded  
Reports will be generated as .pdf files, available to be downloaded

### 2.2 Mobile version

Compatible browsers: Any

## 3 Web access links

The web-based is available at link: <https://www.mpfiltri.com/tools/>  
by clicking on the button "**CONTINUE**" from the section "**SIZING SOFTWARE**":



Then, a log-in page will appear, where non-registered users shall input their data to register, while already registered users shall access with their credentials

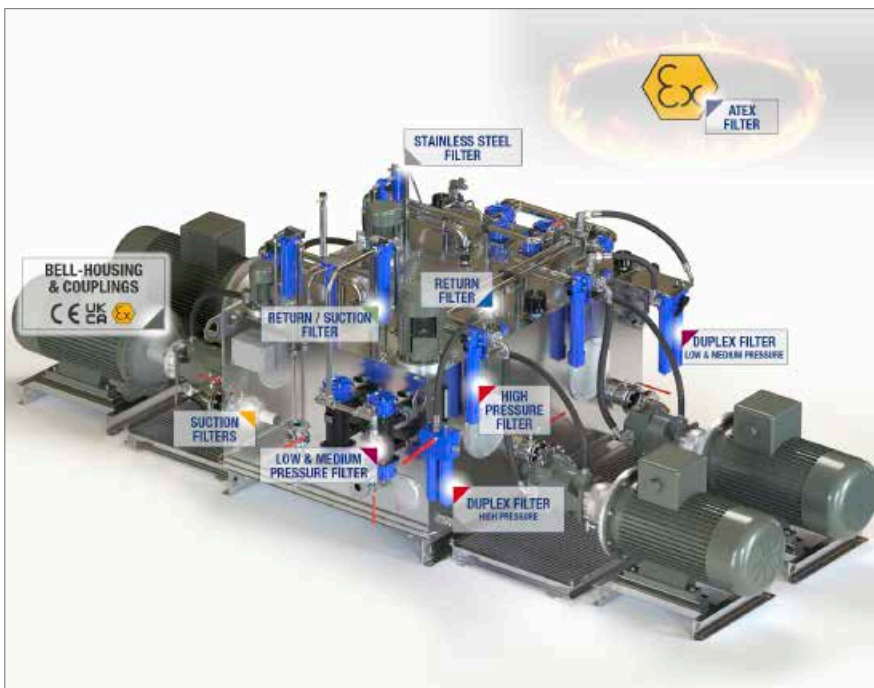
## Registration | MP Filtri Spa

LOGIN	REGISTER
<p>Welcome back! Please enter the following information:</p> <p>Username *</p> <input type="text" value="name.surname@gmail.com"/>	<p>Don't have an account? Sign up free to use all our tools!</p> <p>Name *</p> <input type="text" value="Name"/>
<p>Password *</p> <input type="password" value="*****"/>	<p>Surname *</p> <input type="text" value="Surname"/>
<p><a href="#">Login</a></p> <p><a href="#">recover password</a></p>	<p>E-mail *</p> <input type="text" value="name.surname@gmail.com"/>

After registration with your data, or accessing with your credentials (for already registered users) you will be directed to the page where you could still select the desired software tool:

<p>Headquarters MP Filtri S.p.A. Via 1° Maggio, 3 20042 Pessano con Bornago Milan - Italy</p> <p>T : + 39.02.95703.1 F : + 39.02.95741497 / +39.02.95740188 sales@mpfiltri.com VAT IT04221260153 REA MI-997440 Capital Stock: € 6.000.000</p>	<p><b>WELCOME Name Surname</b></p> <p>Start now by selecting the tool wanted:</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #ccc; padding: 5px; text-align: center;">FILTER SIZING SOFTWARE</div> <div style="border: 1px solid #ccc; padding: 5px; text-align: center;">POWER TRANSMISSION SOFTWARE</div> <div style="border: 1px solid #ccc; padding: 5px; text-align: center;">SOFTWARE 3D</div> </div> <p style="text-align: center;"> <a href="#">LOGOUT</a> <span style="margin-left: 100px;"><a href="#">MODIFY PROFILE</a></span> </p>
---	--

When Power Transmission sizing software or 3D software are chosen, you will be redirected to the desired software or 3D viewer web page. Anyway, for Power Transmission selection, it is even possible to go to Filter sizing product selection page (below), and select, within the different products, the “**BELL-HOUSINGS AND COUPLINGS**” box.



## 4 Bell-Housings & Couplings Sizing

### 4.1 Introduction

The calculation example we are going to report relates to a coupling between an I.E.C. electric motor and a hydraulic pump. The calculation below relates to the selection of a mono-block bell-housing but is also to be considered valid for multi components and lownoise solutions. Nothing changes in the logic of the calculation.

The calculated coupling is to be considered standard and does not need to respect particular conditions beyond the traditional calculation (conditions which we will report at the end of the calculation).

The material of the half-coupling is defined “in advance” based on the electric motor power, and any variation thereof will be the result of a user decision, as will the material of the flexible coupling, which can be selected at the end of the selection process.

Gear pumps are with square flanges and tapered shaft not included in the calculation; all couplings are the result of pre-established matches, and so added into the database.

Below is a print screen of the screens and database tables involved in the coupling calculation.

As you will notice, there are 3 different and alternative ways to calculate the selection of bell-housing and coupling: In the following example, the various steps for the selection of a “high Pressure” filter will be simulated.

1. First selection way: Starting from a specific pump and electric motor recommended
2. Second selection way: Starting from pump shaft / flange data
3. Third selection way: Starting from flange and shaft data

### 4.2 First selection: Pump (Manufacturer - Type - Code)

If this selection mode is chosen, the first data to be input are: Pump Manufacturer; Pump Type; Pump code.

SELECTION FROM PUMP MANUFACTURER	SELECTION FROM SHAFT / FLANGE DATAS		SELECTION WITH PUMP DATA ENTRY	
SELECTION FROM RT CODE	ANG CODE CREATION		ARA CODE CREATION	
Manufacturer: BOSCH REXROTH	L1: 37	D: 20	Cr: 6	THICKNESS: 4.5
Pump type: 0513	Spigot: 100	Int: 125	Nr: 4	F: M10
Pump code: GR. 0513 300 105	Pump interface code: S025	Pump Shaft: C06		

L1: Total shaft length  
Thickness: Centring thickness  
Nr: Number holes pump

D: ØShaft diameter  
Spigot: ØCentering pump  
F: ØHole dimensions

Cr: Key size  
Int: ØPump hole spacing

Then, fields related to pump sizes and technical drawing will appear, with data taken from the database, created from pump manufacturer official data.

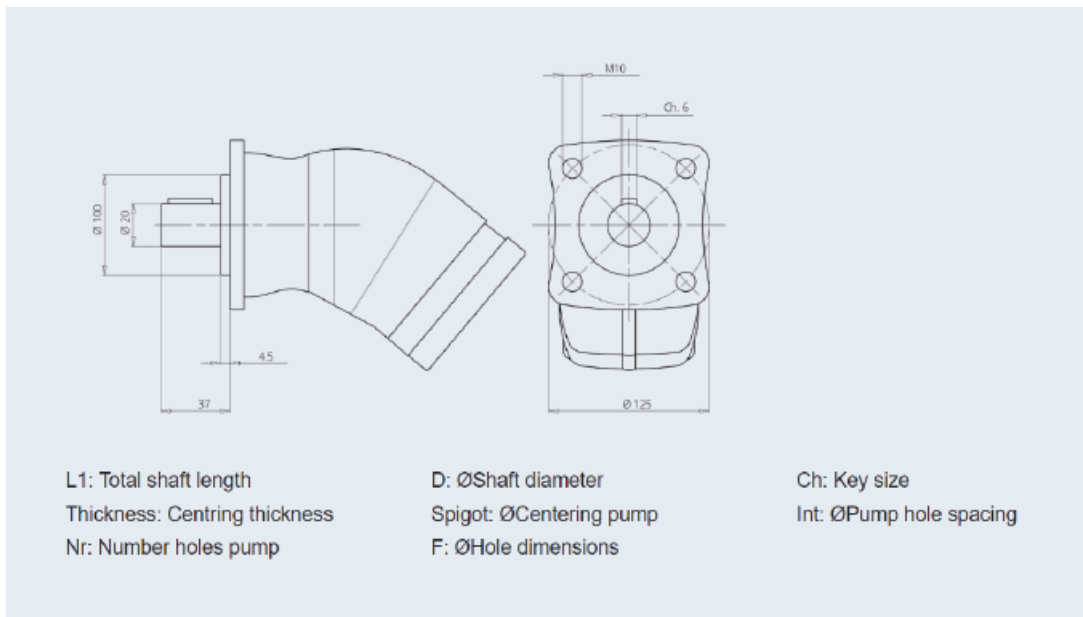
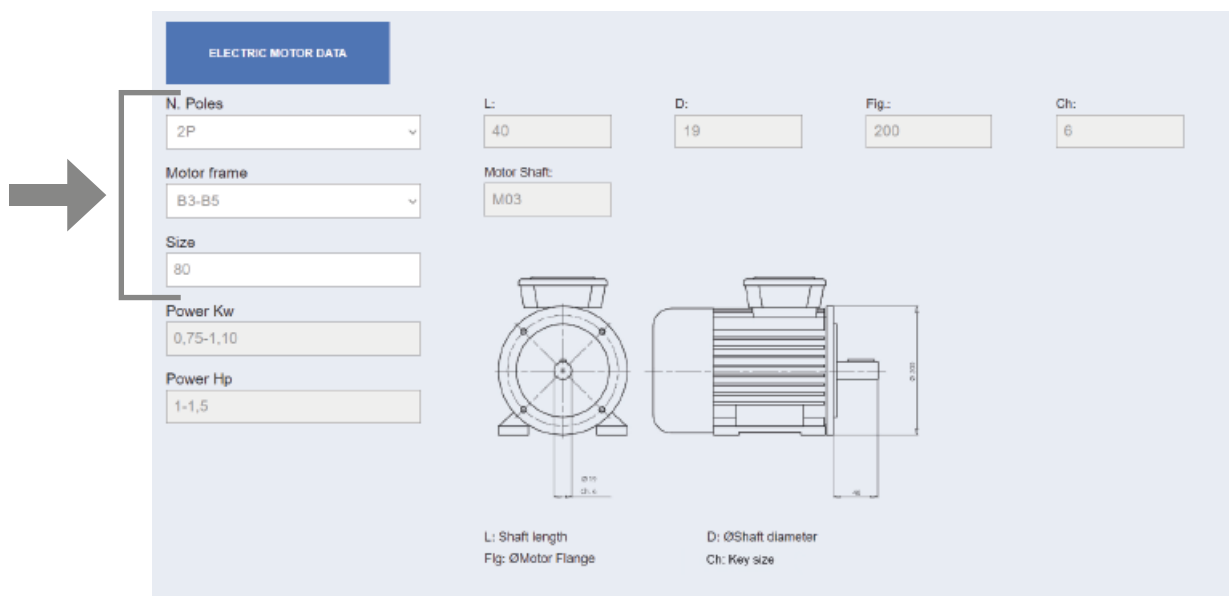


Image for illustrative purpose only

### 4.3 Selection of the Electric Motor (No. Poles - Frame - Size)

In this section the data to be input are: Pump Motor No. of Poles; Motor frame; Size.



Once above data are input, fields related to motor sizes and technical drawing will appear, with data taken from the database, created from motor manufacturer official data.

## 4.4 Spider/sleeve choice



At this stage, selection to be done is related to sleeve type, to be chosen from the ones proposed by the software.

## 4.5 Options and Accessories



This selection is related to the choice of eventual Options, Accessories and Certifications from the ones proposed by the software.

## 4.6 Calculation and saving of available solutions

After clicking on “**CALCULATE**” button, a selection of available solutions will appear.



By clicking on one of given possible solutions, the software will allow you to save the selection in your archive, or to create a .pdf file with solution result.



## 4.7 Second selection: Pump shaft / flange data

If this selection mode is chosen, the first data to be input are: Shaft shape; Shaft Type; Flange: Flange Type.



**BELL HOUSINGS & COUPLINGS**

SELECTION FROM PUMP MANUFACTURER | **SELECTION FROM SHAFT / FLANGE DATAS** | SELECTION WITH PUMP DATA ENTRY

SELECTION FROM KIT CODE | **AKG CODE CREATION** | AKA CODE CREATION

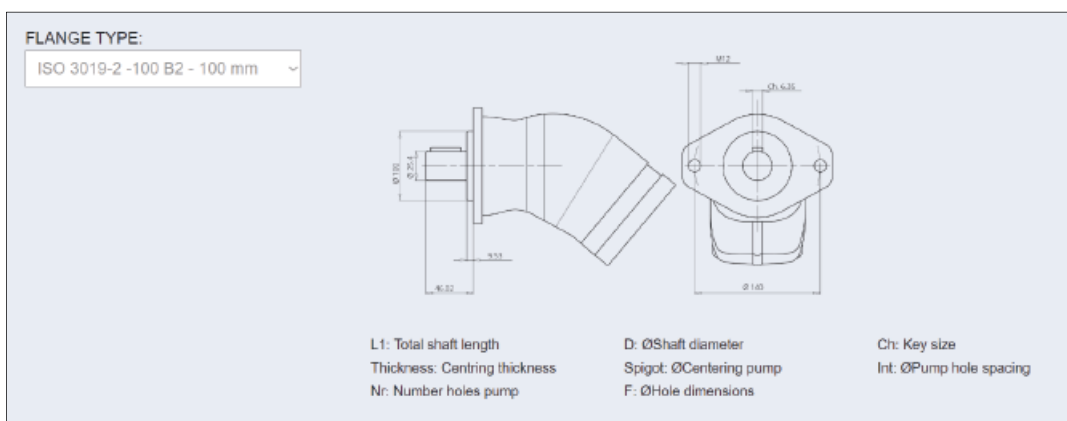
Shaft : SAE Straight Shaft L1: 46.02 D: 25.4 Ch: 6.35 Thickness: 9.53

Shaft Type : 1" SAE BB - 25,40 Spigot: 100 Int: 140 Nr: 2 F: M12

FLANGE: ISO FLANGE - 2/4 BOLT Pump interface code: S072 Pump Shaft: G04

FLANGE TYPE: ISO 3019-2 -100 B2 - 100 mm

Then, Shaft / flange technical drawing will appear, with data taken from the database.



## 4.8 Electric Motor Input

In this section the data to be input are: Pump Motor No. of Poles; Motor frame; Size.

**ELECTRIC MOTOR DATA**

N. Poles: 2P

Motor frame: B3-B5

Size: 80

Power Kw: 0,75-1,10

Power Hp: 1-1,5

L: 40

D: 19

Fig: 200

Ch: 6

Motor Shaft: M03

L: Shaft length  
Fig: ØMotor Flange

D: ØShaft diameter  
Ch: Key size

Once above data are input, fields related to motor sizes and technical drawing will appear, with data taken from the database.

## 4.9 Spider/sleeve choice - options and accessories

These stages will follow the same logic and procedures described at previous paragraphs nos.4.4 and 4.5, that we kindly ask to refer to.

## 4.10 Calculation and saving of available results

This stage will follow the same logic and procedures described at previous paragraph no.4.6, that we kindly ask to refer to.

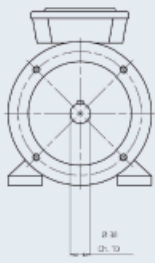
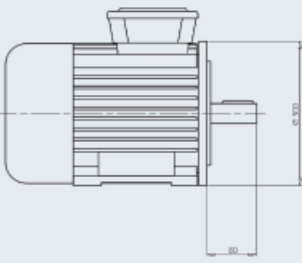
### 4.11 Third selection: Pump data entry

If this selection mode is chosen, the data to be input are all the dimensional features of shaft:

SELECTION FROM PUMP MANUFACTURER	SELECTION FROM SHAFT / FLANGE DATAS		SELECTION WITH PUMP DATA ENTRY	
SELECTION FROM KIT CODE	AKG CODE CREATION		AKA CODE CREATION	
Shaft Type : <input type="text" value="C"/>	L1: <input type="text" value="46"/>	D: <input type="text" value="25.4"/>	Ch: <input type="text" value="6.35"/>	Thickness: <input type="text" value="9.5"/>
Cylindrical shafts table Splined shafts table Drillings chart	Spigot: <input type="text" value="140"/>	Int: <input type="text" value="180"/>	Nr: <input type="text" value="M12"/>	F: <input type="text" value="4"/>
	Pump Interface code: <input type="text" value="S077"/>	Pump Shaft: <input type="text"/>		
	L1: Total shaft length Ch: Key size Spigot: ØCentering pump Nr: Number holes pump		D: ØShaft diameter Thickness: Centring thickness Int: ØPump hole spacing F: ØHole dimensions	

### 4.12 Electric Motor Input

In this section the data to be input are: Pump Motor No. of Poles; Motor frame; Size.

ELECTRIC MOTOR DATA				
N. Poles <input type="text" value="2P"/>	L: <input type="text" value="80"/>	D: <input type="text" value="38"/>	Fig.: <input type="text" value="300"/>	Ch: <input type="text" value="10"/>
Motor frame <input type="text" value="B3-B5"/>	Motor Shaft: <input type="text" value="M06"/>			
Size <input type="text" value="132S"/>				
Power Kw <input type="text" value="5,5"/>				
Power Hp <input type="text" value="7,5"/>				
				
	L: Shaft length Fig: ØMotor Flange		D: ØShaft diameter Ch: Key size	

Once above data are input, fields related to motor sizes and technical drawing will appear, with data taken from the database.

### 4.13 Spider/sleeve choice - options and accessories

These stages will follow the same logic and procedures described at previous paragraphs nos.4.4 and 4.5, that we kindly ask to refer to

### 4.14 Calculation and saving of available results

This stage will follow the same logic and procedures described at previous paragraph no.4.6, that we kindly ask to refer to.



## 5 Recovery of previously - created kit code

If a kit code (i.e. AKMM04Z8066) is already available, in this section it is sufficient to input this kit code

SELECTION FROM PUMP MANUFACTURER	SELECTION FROM SHAFT / FLANGE DATAS	SELECTION WITH PUMP DATA ENTRY
SELECTION FROM KIT CODE	AKG CODE CREATION	AKA CODE CREATION

Insert the Kit code:

\* Choose an option

**CALCULATE**

and, after clicking on “**CALCULATE**” button, all pump data will appear

SELECTION FROM PUMP MANUFACTURER	SELECTION FROM SHAFT / FLANGE DATAS	SELECTION WITH PUMP DATA ENTRY
SELECTION FROM KIT CODE	AKG CODE CREATION	AKA CODE CREATION

Manufacturer:  L1:  D:  Ch:  Select:

Pump type :  Select:  Int:  Nr:  F:

and motor data will appear

**ELECTRIC MOTOR DATA**

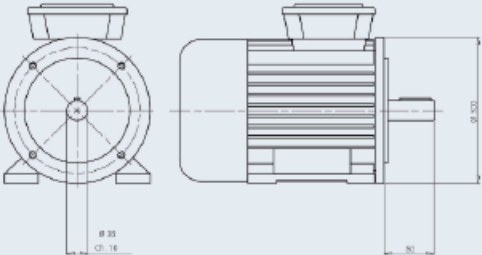
N. Poles:  L:  D:  Fig.:  Ch:

Motor frame:  Motor Shaft:

Size:

Power Kw:

Power Hp:



## 5.1 Spider/sleeve choice - options and accessories

These stages will follow the same logic and procedures described at previous paragraphs nos.4.4 and 4.5, that we kindly ask to refer to.

## 5.2 Calculation and saving of available results

This stage will follow the same logic and procedures described at previous paragraph no.4.6, that we kindly ask to refer to.

# 6 AKG code creation

By using this feature, user shall input following fields:

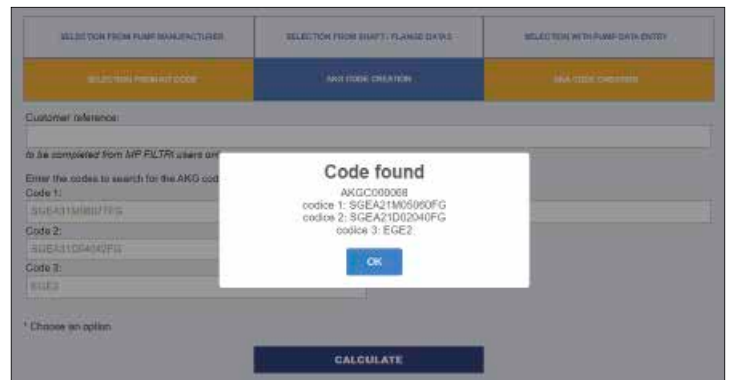
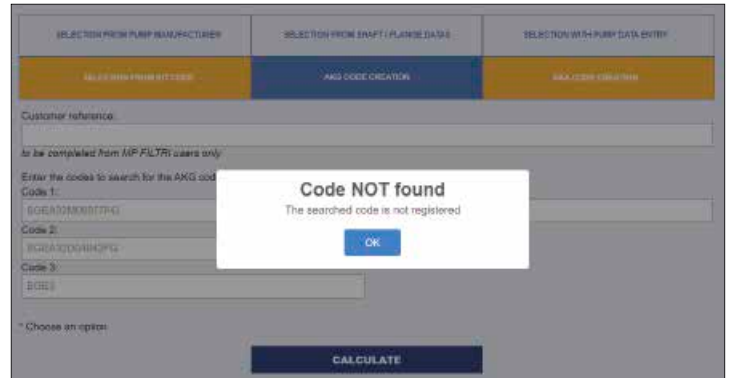
- Customer reference field: *only by MP Filtri users*
- Code 1 - 2 - 3 : in this fields user shall input, in any sequence:  
motor half coupling code + pump half coupling code + spider/sleeve code



By clicking on the “**CALCULATE**” button, software will provide following result

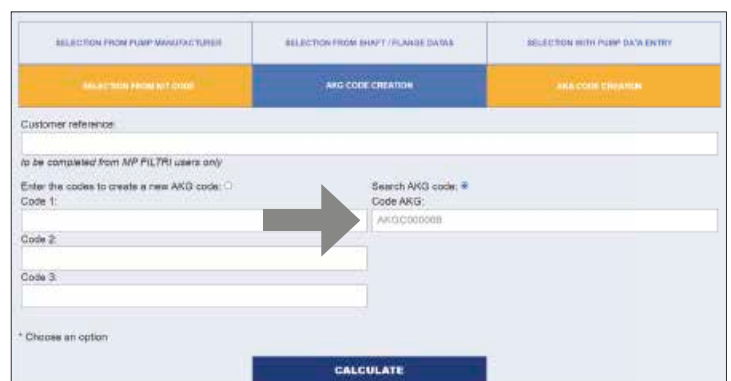
and, after clicking “OK” button, MP Filtri Power Transmission team will receive a message to create the related kit code combining the No.3 mentioned codes for motor half coupling code + pump half coupling code + spider/sleeve code.

If, in the 3 fields Code 1- 2 -3, user will input No.3 already existing codes, software will show following result ,mentioning, in the first row, the related existing kit code:

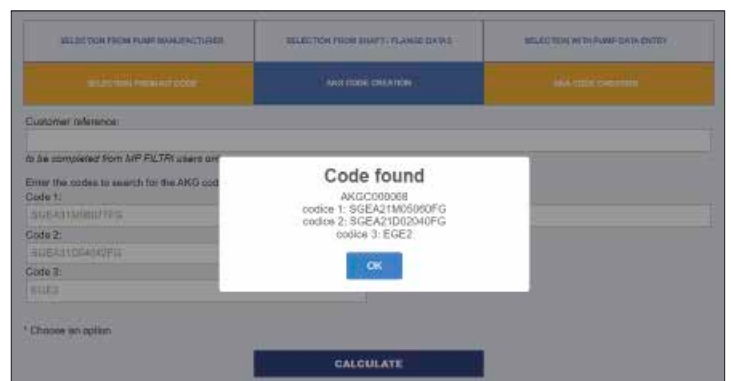


## 6.1 AKG code verification

If user has already an existing AKG kit code to be checked, it is sufficient to input it in the related field on the right-hand side



and then, by clicking on the “CALCULATE” button, software will show following result, mentioning, in the first row, the related existing kit code and then the connected no. 3 codes for motor half coupling + pump half coupling + spider/sleeve:



## 7 AKA code creation

By using this feature, user shall input following fields:

- Customer reference field: *only by MP Filtri users*
- 4-codes input: user shall input, in any sequence: bell housing code + motor half coupling code + pump half coupling code + spider/sleeve code



The screenshot shows the 'AKA CODE CREATOR' interface. At the top, there are three tabs: 'SELECTION FROM PUMP MANUFACTURERS', 'SELECTION FROM SHAFT / FLANGE DATA', and 'SELECTION WITH PUMP DATA ENTRY'. Below these are three buttons: 'SELECTION FROM KIT CODES', 'AKA CODE CREATOR', and 'AKA CODE CREATOR'. The main form includes a 'Customer reference:' field, a note 'to be completed from MP FILTRI users only', and a 'Search AKA code:' field. The 'Enter the codes to create a new AKA code' section has a note '\* 4 codes, 6 codes or 8 codes are required'. There are eight input fields labeled 'Code 1:' through 'Code 8:'. A 'CALCULATE' button is at the bottom right.

- 6-codes input: user shall input, in any sequence: motor base code + pump flange code + mounting kit code (i.e. KVGx) + motor half coupling code + pump half coupling code + spider/sleeve code



The screenshot shows the 'AKA CODE CREATOR' interface with the 6-codes input form. The 'Code 1:' field contains 'LMC350AFBU90', 'Code 2:' contains 'SIEAG1MB8109FG', and 'Code 3:' contains 'SIEAS100020FS'. The 'Code 4:' through 'Code 8:' fields are empty. The 'CALCULATE' button is at the bottom right.

- 8-codes input: user shall input, in any sequence: motor base code + bell-housing adaptor code + pump flange code + (2x) mounting kit code (i.e. KVGx) + motor half coupling code + pump half coupling code + spider/sleeve code



After any of the 3 above mentioned cases (4-rows, 6-rows, 8-rows), by clicking on the “**CALCULATE**” button, software will provide following result:



Enter the codes to create a new AKA code:  Search AKA code:

4 codes, 6 codes or 8 codes are required

Code 1: LMC350AP1U080

Code 2: SGEA81M08108FG

Code 3: SGEA81D08008FG

Code 4: EGE5

Code 5:

Code 6:

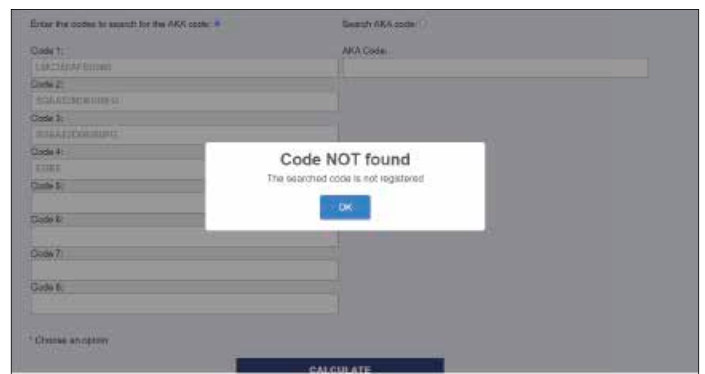
Code 7:

Code 8:

\* Choose an option

**CALCULATE**

and, after clicking “**OK**” button, MP Filtri Power Transmission team will receive a message to create the related kit code combining the No.3 mentioned codes for motor half coupling code + pump half coupling code + spider/sleeve code.



Enter the codes to search for the AKA code:  Search AKA code:

Code 1: LMC350AP1U080

Code 2: SGEA81M08108FG

Code 3: SGEA81D08008FG

Code 4: EGE5

Code 5:

Code 6:

Code 7:

Code 8:

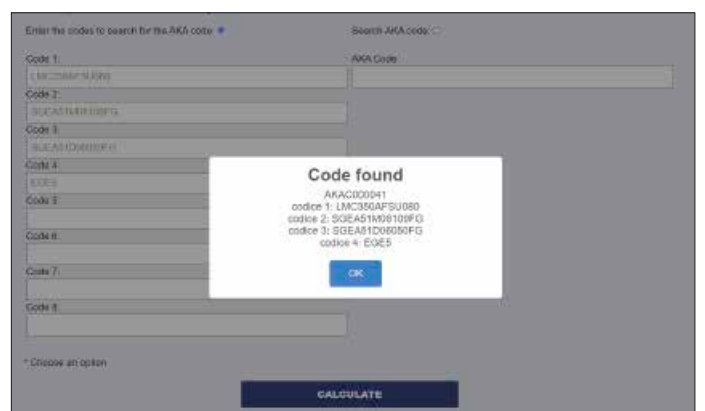
\* Choose an option

**Code NOT found**  
The searched code is not registered.

**OK**

**CALCULATE**

If, in the no.4 (or No.6, or No.8) used fields, user will input already existing codes, software will show following result, mentioning, in the first row, the related existing kit code:



Enter the codes to search for the AKA code:  Search AKA code:

Code 1: LMC350AP1U080

Code 2: SGEA81M08108FG

Code 3: SGEA81D08008FG

Code 4: EGE5

Code 5:

Code 6:

Code 7:

Code 8:

\* Choose an option

**Code found**  
AKAC000041  
code 1: LMC350AP1U080  
code 2: SGEA81M08108FG  
code 3: SGEA81D08008FG  
code 4: EGE5

**OK**

**CALCULATE**

## 7.1 AKA code verification

If user has already an existing AKA kit code to be checked, it is sufficient to input it in the related field on the right-hand side

Enter the codes to search for the AKA code:       Search AKA code:

Code 1:  →

Code 2:

Code 3:

Code 4:

Code 5:

Code 6:

Code 7:

Code 8:

\* Choose an option

**CALCULATE**

and then, by clicking on the “**CALCULATE**” button, software will show following result, mentioning, in the first row, the related existing kit code and then the connected no.3 codes for for motor half coupling + pump half coupling + spider/sleeve:

Code 3:

Code 4:

Code 5:

Code 6:

Code 7:

Code 8:

**Code found**

AKAC000012

codice 1: LMC350AFSU021

codice 2: SGEG40M07110

codice 3: ege4

codice 4: SGEG40PD02045

**OK**

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For updated information please visit our website: [www.mpfiltri.com](http://www.mpfiltri.com)

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