

Introduction and Utilization of Seal Quick Searcher[®] (SQS) - Gasket Version -

1. Introduction

In 2014, we launched Seal Quick Searcher[®] (SQS) on our website, which is used to search for available seal products. Through SQS, customers can select industrial seal products and find troubleshooting methods. The website search system is designed for engineers who do not have expertise in gaskets, to allow them to easily find necessary technical information. The website also provides technical information in the desired format.

Since SQS was launched, we have received very positive feedback from customers. The search system is now available in not only Japanese but also English and Chinese.

2. What is Seal Quick Searcher[®] (SQS) ?

Seal Quick Searcher[®] (SQS) is a search service that enables users to find our recommended seal products in various ways. When searching for industrial seal products, users can set certain search conditions including not only fluid group & type, temperature, and pressure but also keywords and industries. We have also put our accumulated know-how online in a Frequently Asked Question (FAQ) format. Through SQS, users can calculate bolt tightening force, select an appropriate pressure rating, and search for items equivalent to non-Valqua products, catalogs, and *Valqua Handbook* in real time.

In addition, users can select gaskets based on actual usage conditions. If they use SQS and search for solutions to troubles that have happened at their workplace, the website can offer troubleshooting suggestions. Of course, the system fully covers inquiries about products and

conditions, and engineers from all industries can use this service. Basic instructions on how to use SQS are given below; please refer to them when using our website and system.

3. How to Use Seal Quick Searcher[®] (SQS)

① Search by Fluid Group & Type, Temperature, and Pressure

One of SQS's key functions is the ability to search recommended seal products which meet specified conditions. By using this function, anyone can select gaskets based on fluid group & type, temperature, and pressure. The following pages describe how to search recommended products.

3-1) How to Access Seal Quick Searcher[®] (SQS)

Click the "Seal Quick Searcher[®]" button on our website.



① Click the  button.

3-2) How to Access "Gasket Search"

Click the "Gasket Search" button on the "Seal Quick Searcher[®] (SQS)" page.



② Click the **Gasket Search** button.

3-3) How to Access “Search by Fluid, Temperature, and Pressure”

Click the “Search by Fluid, Temperature, and Pressure” button on the “Gasket Search” page.

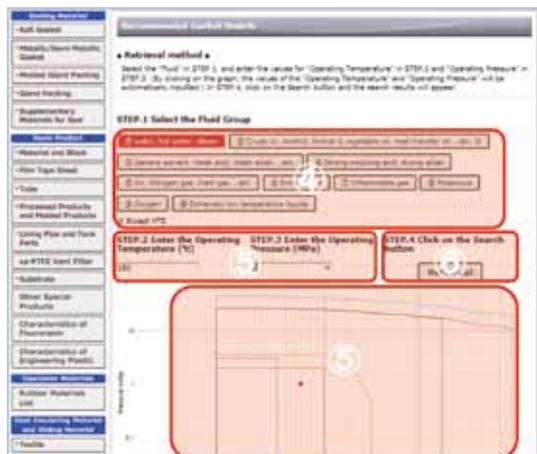


③ Click the **Search by Fluid, Temperature and Pressure** button.

3-4) How to Set Search Conditions

Select a fluid group and type, and input temperature and pressure on the “Recommended Gasket Search” page.

Through this intuitive setting of conditions, users can repeatedly search for products with simple mouse operations.



④ Select a fluid group.

Note: Inverted red display represents the selected fluid group.

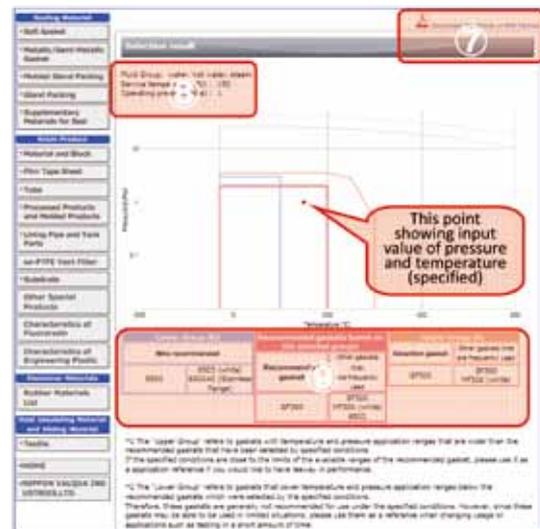
⑤ Input temperature and pressure.

Note: To automatically input temperature and pressure, click the desired temperature point on the graph.

⑥ Finally, click the **Retrieval** button.

3-5) How to Retrieve and Confirm the Selection Results

After clicking the “Retrieval” button, product search results are displayed below the graph.



⑦ The results can be downloaded in PDF format.

⑧ The search conditions are displayed.

⑨ Recommended gaskets are extracted on the basis of the search conditions. Then the recommended products and its upper and lower groups are displayed.

Refer to the following explanation regarding upper and lower groups.

After clicking the product number displayed in the “Selection Results” section, the page switches to a new page displaying detailed information on the selected product.

Explanation

The term “upper group” represents a group of gaskets covering a wider range of temperature and pressure than the recommended gaskets extracted on the basis of designated conditions. When the designated conditions are near the usable limit of the recommended products and sufficient margin is desired to ensure proper functioning, the upper-group information is a useful reference.

The term “lower group” represents a group of gaskets covering a narrower range of temperature and pressure than the recommended gaskets extracted on

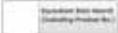
the basis of designated conditions. Therefore, generally, lower-group products should not be used when the product is used under the designated conditions. However, a lower-group product may be used under limited conditions, such as for a short period including trial operation or when a change in conditions is planned. The lower-group information may then be a useful reference.

4. How to use Seal Quick Searcher® (SQS) ② Find an Item Equivalent to a non-Valqua Item with Product Number

Users can use information for a non-Valqua product to find the equivalent Valqua gasket.

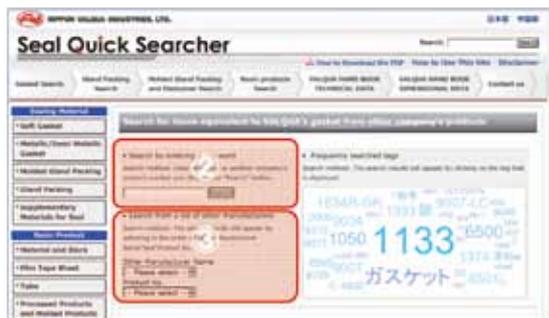
4-1) How to Access “Equivalent Item Search”
Click the “Equivalent Item Search (Including Product No.)” button on the “Gasket Search” page.



① Click the  button.

4-2) How to Set Search Conditions
Set search conditions on the “Search for items equivalent to Valqua’s gasket from other company’s products” page.

Either the “Search by entering a key word” or “Search from a product number from a list of other manufacturers” is available.



- ② The search can be conducted by entering a key word (partial key words are acceptable).
- ③ Also, a search can be conducted by selecting a product number from a list of other manufacturers.

Note: “Gasket Search results” displays “Recommended” and “Suggested” products. Each type of product is recommended on the following basis.

Recommended product: A product with similar materials and usable range

Suggested product: A product which has a partly different color tone and usable range, but can probably be used.

5. How to Use Seal Quick Searcher® (SQS) ③ Calculation of Gasket Tightening Force

Seal Quick Searcher® (SQS) provides various information and useful tools for using our products. This section introduces one such tool and explains how to use it to calculate the tightening force.

5-1) How to Access “Support Tools”
Click the “Support Tools” button on the “Seal Quick Searcher® (SQS)” page.



① Click the  button.

5-2) How to Access the “Tightening Force Calculator”

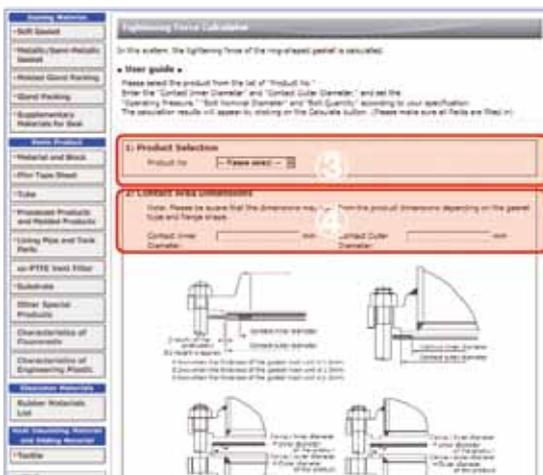
Click the “Tightening Force Calculator” button on the “Support Tools” page.



② Click the  button.

5-3) How to Set Calculation Conditions ①

Select a product and input the dimensions on the upper part of the “Tightening Force Calculator” page.



③ Select the product number of the product which is to be calculated.

④ Refer to the illustration and input the internal and outside diameters of the contact zone. Especially, in the case of spiral wound gaskets, attention should be paid to the position of the gasket’s outside diameter when measuring the diameter.

5-4) How to Set Calculation Conditions ②

Input the operating pressure, bolt nominal diameter, and bolt quantity, which are to be calculated, on the lower part of the “Tightening Force Calculator” page. Then, click the “Calculation” button.



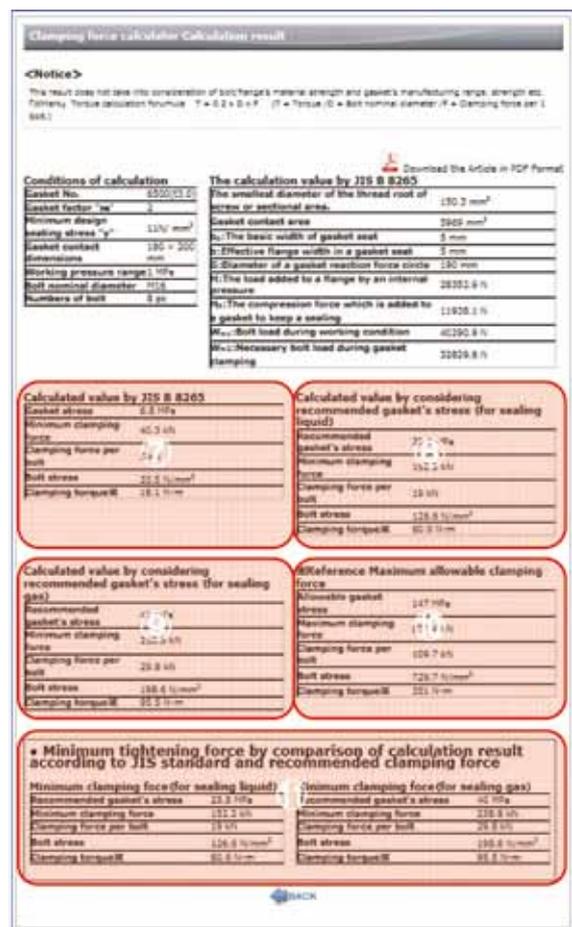
⑤ Input the operating pressure, bolt nominal diameter, and bolt quantity, which are to be calculated.

⑥ Finally, click the  button.

5-5) How to Display Calculation Results

The results of the tightening-force calculation are displayed as follows.

Also, the results can be downloaded as a PDF.



⑦ The value calculated through the following processes: W_{m1} and W_{m2} stipulated in JIS B8265 are used in this calculation, are compared, and the higher value is displayed.

⑧ The value calculated based on our recommended gasket stress is displayed (in the case of a liquid seal) .

⑨ The value calculated based on our recommended gasket stress is displayed (in the case of a gas atmospheric seal) .

- ⑩ The value calculated based on the allowable gasket stress of the gasket is displayed.
- ⑪ The value calculated through the following processes: The value is calculated according to JIS. Then the obtained value is compared with our recommended stress and the higher value is displayed as the final calculation result.

6. Conclusion

This report introduced some of the functions of our Seal Quick Searcher® (SQS). We hope you will use SQS for your business. We will continue to improve the functions to meet our valued customers' needs.



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